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OUR HERALDRY

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Handsworth

A chance comment which I made a few months back on the device displayed upon the pendant suspended from our President's chain of office induced him to request me to offer a few remarks upon our heraldry in general. It must be understood at the outset that I am no authority but simply an amateur on the subject. The attractive colours and devices used in heraldry, primarily on my Tudor school coat of arms, early attracted me, as I think they do most boys, and in later life as a member of our well-known Birmingham Archæological Society the armorial coats grew to mean much more to me as historically representing famous families and individuals, for in the course of our archæological excursions I began to recognise old friends recurring in unexpected places, which were combined as they expressed different family unions and told their own story, often in quite a romantic fashion.

The subject might at first seem an unimportant one, but its influence is really vital, providing, as it does, both an inspiration and an ideal—for the armorial coat represents the honour of the individual, body or nation of its adoption. It certainly made for pride of place, but it was often a deed of honour or valour that conferred it, and it was looked upon as a priceless inheritance by the young aspirant to Knighthood who, during his all-night vigil in the church prior to his reception of dignity through the accolade on the following day, offered before the altar, with his other arms, his family coat, and prayed that he might pass it on with honour untarnished and bravery unquestioned in the defence of the helpless, of his lady and of his King.

I must not be led into offering a dissertation upon the fundamentals of the study of Heraldry, interesting though it may be, but get down at once to the subject of our own Armorial Coat.

The description given in the Register of the R.C.V.S. reads:—"Argent—a cross engrailed gules between a horse's head erased in the first quarter, an arrow in bend entwined by and piercing a serpent in the second, a horse-shoe in the third, all proper, and a bull's head erased sable in the fourth. Crest—on a wreath of the colours, a Centaur proper, holding a shield argent charged with an arrow, also proper."

First allow me to transcribe the heraldic language. Argent signifies the general colouring of the shield, which is silver or white. It is divided into four quarters by a cross, the outside border of which is wavy or "engrailed," and "gules" signifies that the colour of the cross is red or vermillion. "Erased," the heraldic term applied both to bulls' and horses' heads, means that the base, or neck part, is as though it had been torn from the body in the process of separation, as distinct from "couped" in which the neck-base would be level, as if cut. The term "proper" indicates that the colours are natural and not fanciful.

The arrow in the second quarter is said to be "in bend." The bend in heraldry is really a diagonal coloured division of one-fifth of the shield generally proceeding from the dexter chief to sinister base, as in the case in point, the device, *viz.*, the arrow, following that line. When the bend is reversed, *viz.*, from sinister chief to dexter base, the bend is described as "bend sinister" and indicates illegitimacy. The upper third of the shield, horizontally marked off, is called the "chief." Dexter and sinister mean, of course, the shield's right and left and not as looked upon from the observer's point of view. Now I trust that the description of the shield is reduced to such common terms as will be understood by all.

Our crest I regard as singularly appropriate, but instead of "A centaur," it should be described as "Chiron," who was the wisest and most just of all the Centaurs.

The earliest mention of the Centaurs in Greek literature describes them as a wild race of hunters inhabiting the woods and hills around Mount Peleon in Thessaly, and who, being so constantly mounted, began later to be represented as actually combined into a single being: which is typical of the harmony of the true horseman with his steed. The origin of the word is the Greek *Kentauros*, a bull-killer, which we must please apply in the hunting sense, and trust that it may not hold a medical significance.

After a mythical fight between Hercules, who was assisted by Chiron, against the rest of the Centaurs, the latter were expelled from Thessaly, and took refuge on Mount Pindus.

Hunting the bull on horse-back was a national sport in ancient Thessaly, the Thessalians being celebrated horsemen. The American Indians, when they first saw the Spanish cavalry, believed horse and man to be one being.

Chiron, who was skilled in hunting, medicine, music and prophecy, had received his instruction from Apollo himself and from Chiron the art of medicine was passed on to the Grecian heroes. During the fight between his friend Hercules and the other Centaurs, Chiron was struck by a poisoned arrow, and although immortal, he sacrificed his immortality to Prometheus; and Zeus, the King of the Gods,

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placed Chiron among the stars as Sagittarius, in which the noted Centaur is represented as shooting an arrow from a bow, with which figure all will be familiar as one of the Zodiacal signs. This emblem formed the coat of arms and royal standard of Stephen, the last of the Norman Kings.

Into the significance of Chiron may be read many of the best qualities of our calling, and I think most will agree that it was quite fittingly chosen as the device for the President of the National Veterinary Medical Association's pendant, but it should be remembered that heraldically, it is purely a crest, and must be confined to the fillet or wreath of red and white. (The fillet was the means of attachment of the crest to the Knight's helmet.) The N.V.M.A. note-paper depicts Chiron wandering unrestrained in a miniature pasture, which is quite wrong from an heraldic point of view. May I suggest that Chiron, on a fillet of red and white (our College colours) be the permanent badge of the President and members of the N.V.M. Association, with the necessary heraldic adjustment in the case of the former. Those interested in our symbolism should visit the most interesting Wellcome Medical Historical Museum at 54, Wigmore Street, in which is a large-sized copy of an ancient model of Chiron who is there described as the earliest associated deity of herb-healing. He is represented holding in his left hand a staff with which to direct his progress with precision as well as the fleetness which was natural to him, and holding in his right hand, and supported by his right arm a large bunch of poppy-flowers and poppy heads indicating his power to control pain—to my mind much more appropriate than the aloe, which no longer holds its former position of prime importance with many of us.

The quarterings of our armorial coat—the horse's and bull's heads and horse-shoe—refer simply to the branches of our practice, while the snake transfixed by the arrow signifies the mastery of disease by the destruction of malicious power.

The bull's head has been borne upon the shield of the families of Carslake, Skerrington, Torrell, Rudstone, Bullen and Boller; the horse-shoe by the Ferrers and Marshalls, while the horse's head is displayed upon the coat of the Tresillians, Marshes, Horseys, Chevals, Conways and Horsleys: but these origins carry no importance from a veterinary point of view. The Ferrers and Marshalls have at various times filled the office of Master of the Horse.

The division of the argent or white shield by the red cross, however, sets a very high standard, standing in the case of the former for purity of intent, and in the latter for devotion and self-sacrifice, and these virtues are implied in the wreath or fillet of the colours, red and white, which support our crest.

The red cross on the white ground is the coat of St. George, the patron Saint of England, which is, of course, of Christian origin and signifies, as I have already indicated, self-sacrifice with purity of heart. This forms the central and principal figure of our Union Jack, so our own red cross is of national significance.

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Thinking that a comparison of the armorial coats of other kindred medical bodies with our own might be of interest, I have sought the assistance of Dr. D'Arcy Power, Librarian of the Royal College of Surgeons, and Dr. H. M. Harlow, Secretary of the Royal College of Physicians, as well at that of our own Dr. Bullock. In each instance it has been generously forthcoming. I would here like to offer my grateful acknowledgments to these gentlemen. As in our own, the coat of the Royal College of Surgeons bears a red cross, but "in chief" or "over all"—*i.e.*, occupying the upper third of the shield. The cross at its centre is charged with a royal crown, pointing to its royal charter; above and below this the cross bears an anchor, indicating its naval services, and on either side of the crown, also on the cross, is a portcullis, the well-known badge of the Beauforts, which was one of the most favoured of the Tudor badges. It was the badge of Lady Margaret Beaufort, the mother of King Henry VII, and figures in the bearings of the City of Westminster. This fixes the Tudor origin of the charter to the Barber-Surgeons' Company.

From very early times the art of surgery appears to have been associated with that of the barber's calling, for on September 29th, thirtieth year of King Henry VI 1451, a grant of arms was made to the Barbers' Company by Clarenceux, King at Arms, which on a field sable or black displayed in first and fourth quarters a chevron of silver between three "flemys," or surgeons' fleams,* in the second and third quarters a double red rose crowned, for the royal House of Lancaster, to which dynasty Henry VI belonged, and in chief a red cross bearing on its centre the English Lion.

In 1540 the Surgeons' Guild was united by Act of Parliament to the Barbers' Company and styled The Barber Surgeons' Company, to which King Henry VIII presented a charter, this formed the subject of a picture by Holbein, the great court painter to the King, who has left us so many very fine and faithful portraits of the

*In a letter which I received from Dr. D'Arcy Power this morning (February 5th) he writes:—"The Barbers' Company are very anxious to get a fleam, because it appears in their arms. We, as surgeons, gave up fleams when we took to lancets; you, as veterinary surgeons, used them much longer. Are they still in use, and, if so, can they be bought?" Perhaps members having old types of fleams approaching as nearly as possible the pattern on the Barbers' Arms would kindly produce them.

prominent people of his day. Those interested should, when in the neighbourhood of Burford, Oxon, visit its deeply interesting old church, for besides many other historical objects, it possesses in its north aisle the tomb of the first Master of the Barber-Surgeons' Company, Edmund Harman, to whom the much-married King presented its charter, and on the tomb is a copy of Holbein's picture showing the King in the act of presenting the charter to the Master, with the Company's Council assembled. In 1745, the eighteenth year of George II, the Surgeons became disunited from the Barbers, it being thought that the former calling demanded men of higher calibre and learning, and in 1822 the College of Surgeons received the new grant of arms in the form in which it now exists.

The Royal College of Physicians' coat-of-arms shows, on a field sable or black, an extended arm across the centre of the shield; and reaching from the chief of the shield above and emerging from a cloud of blue and silver surmounted by the golden rays of the sun, the "Hand of God," an ancient mediæval religious symbol, reaches down, as it were, from Heaven, to touch the radial artery, signifying the divine origin of the gift of healing. Below the arm is a pomegranate the badge of Queen Catherine of Aragon, this grant of arms being made by Christopher Barker, Garter King at Arms in the reign of King Henry VIII who, with all his faults, was scholarly and certainly a friend to the art of medicine.

Forming an "orle" or border around the margin of the entire shield is a chain of fleur de lys. This, in diaper, was adopted by St. Louis (who was a friend of our Simon de Montfort and also of St. Francis of Assisi) as the royal coat-of-arms of France. It signifies the lilies of the Annunciation, and is therefore symbolical of the world's Redemption and Salvation—hence its very frequent use in church decoration. It was one of the inspiring symbols displayed on the banner of St. Joan of Arc, and has, very fittingly, been adopted as the emblem of the Boy Scout movement. This again points to the faculty of healing as being a God-given gift.

The Apothecaries' Company, which was incorporated December 6th, 1617, sixteenth year of James I, received a grant of arms which represents, on a blue field, Apollo the Sun-God, who was also the God of Medicine, with his head radiating sunbeams, supplementing or bestriding a serpent or griffon, holding in his left hand a bow, from which he is in the act of discharging an arrow with his right, pointing to his victory over disease—surely prophetic of the healing powers of light and again acknowledging its divine origin. It is interesting to note that prior to James I's time the Apothecaries' Company was united to the Spicers' (French: *Epicier*), or Grocers' Company.

The writer offers his apologies for the scrappy way in which he has endeavoured to popularise his description, for the subject of Heraldry is a very wide one, with its own particular language, and is not at all easy to explain to an audience unfamiliar with its laws and terms, but if he has succeeded in throwing a little light upon the meaning of our own coat-of-arms and those of its kindred callings, he will feel amply repaid for any trouble he may have taken in collecting and arranging his materials. It is to be regretted that the account cannot be illustrated by an attractive series in colour of the armorial coats which have been commented upon, but access is readily available to all who care to take the trouble to seek it.

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ADDENDUM

I have not, in the course of my article, given consideration to the mottoes which appear beneath the various arms described, as with a little knowledge of Latin their meaning is sufficiently apparent.

Dr. Bullock, however, has drawn my attention to some interesting facts connected with the origin of our own motto "*Vis Unita Fortior*"—"Power united grows stronger"—which I feel it is very desirable to note. He points out, quoting Willis's Life of William Harvey, that it was the motto of this great Elizabethan physician who made the discovery of the circulation of the blood. It is therefore particularly suitable for a body practising medicine, and an enduring monument to this great discoverer. He was born at Folkestone on April 1st, 1578, died June 3rd, 1657, and was buried at Hempstead, Essex. Those privileged to attend the 1932 Congress N.V.M.A., will be brought into contact with various points of interest relating to this truly great man, in whose honour his townsmen have erected a statue. In 1615 he was made Lumleian lecturer at the College of Physicians, where he made known his theory of the circulation of the blood, publishing his essay on the subject in 1628.

Dr. Bullock throws interesting light upon the antecedents of our motto, which first appeared officially upon the original grant of arms of the R.C.V.S. made on November 6th, 1844. Seven years earlier, he says, in the *Veterinarian* for 1837, heading an abstract of the proceedings of the Veterinary Medical Association instituted in 1836 for the union of Veterinary Surgeons and Students, appears "*Vis Unita Fortior.*" At page 703 of the volume is the record of a speech made by Professor Moreton, the Association's original Secretary, in response to the toast of his health at the anniversary dinner held on November 20th, 1837, in which he said: "It is now ten years since the idea first presented itself to my mind (*i.e.*, the formation of a Veterinary Medical Association). Influenced by this impression, I ventured to address a circular to the

profession having for its motto that which is now the Association's, for I feel convinced that 'power by union becomes stronger.' To make use, however, of a familiar phrase, 'it did not take.'"

In the year 1836 was founded the Veterinary Medical Association. The writer has searched much heraldic literature, but the only other instance of the use of this motto is in a list which ascribes it to Viscount Mountcashel. As no description or illustration is given of this nobleman's arms, he is unable to establish any connection between this instance of its use and that of William Harvey.

Bibliography:—

Hazlitt's "City of London Companies."
Berry's "Encyclopædia Heraldica."
Edmondson's "Heraldry."
Boutell's "Heraldry."
Smith's "Classical Dictionary,"

ROYAL AGRICULTURAL SOCIETY AND RESEARCH ON PIG DISEASES

The Council of the Royal Agricultural Society of England, at their meeting in London on March 2nd, decided to approach the Pig Industry Council on the subject of securing some concentrated investigation of pig diseases. From January 16th to February 15th 180 outbreaks of swine fever alone were confirmed in this country, which was 69 more than in the same period of last year.

Sir Merrik Burrell, the chairman of the Veterinary Committee, said that he had been inquiring into the condition of research into notifiable animal diseases and had found that the simultaneous inoculation against swine fever, which had been used in America successfully, was not used here. The official reason was that it was not certain that there was enough swine fever in this country to make it worth while to immunise the pigs. Another difficulty was that many cases reported as swine fever were actually cases of another similar disease. Pigs immunised against swine fever were not protected against the other disease.

Lord Radnor, chairman of the Pig Industry Council, said that this country was extremely backward in the methods of research, and there was virtually no research into pig diseases at all. Many of these so-called swine fever cases were cases of another disease, but scientists did not seem to know what that disease was.

Sir William Dampier said the newly-formed Agricultural Research Council (of which he is Secretary) was now engaged on a survey of the actual research in progress at the moment. Its members thought there was much less going on in that direction than in many other departments, and the Research Council intended to make every effort to stimulate research into animal disease. It was true that the other mysterious disease which was often confused with swine fever was of unknown origin, and this would obviously be a subject for early investigation.

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The whole of the East Riding and the greater part of the West Riding are declared to be infected with swine fever, according to an Order issued by the Ministry of Agriculture, and dated February 26th.

STUDIES ON THE ANATOMY OF THE DOMESTIC HEN

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1.—The Musculature of the Thigh.

Apart from its academic value, an accurate knowledge of the distribution of the muscles of the hind limb of the fowl is valuable because of its association with locomotion and pathologically allied conditions, such as paralysis.

Kaupp's "Anatomy of the Domestic Fowl" (1918) has been a valuable text-book for the groundwork of the study of avian anatomy, but in spite of its size, it is, in some parts, both deficient and inaccurate. This is no matter for surprise, because this appears to be the only text-book available on the subject and as such has certain inherent weaknesses. In his foreword Kaupp welcomes suggestions and corrections, and it is in this light that the writer has brought forward the following data.

The muscles of the upper, lateral part of the thigh show little differentiation, but below the trochanter of the femur three or four become distinct. This close union between the several muscles is confirmed on dissection of the part, when it is seen that their muscle fibres are interwoven. Consequently there is no clear line of demarcation between the origins of the sartorius and the muscle lying caudal to it. This latter muscle is large and extensive, covering by far the greater part of the lateral aspect of the thigh. Kaupp has termed it *M. gluteus primus*, but this seems to be distinctly unfortunate for several reasons. From a knowledge of the anatomy of the larger domestic mammals, notably the horse and dog, the position of this muscle at once suggests the *M. biceps femoris*, although its close association with the *M. glutæus medius* and its insertion (in part) with the quadriceps muscles, allies it to the *M. tensor fascia latæ*. As there seems no good point, therefore, in using terms which, although possibly accurate for use in the dissection of man, are quite unsuitable for the hen (which is not even a mammal); and as there is another muscle lying on the medial face of this one which Kaupp has already termed the biceps muscle, perhaps it would not be unreasonable to call the one in question "*M. cruris superficialis*," meaning the superficial muscle of the thigh. This seems adequate in that this muscle occupies practically the whole of the superficial (lateral) aspect of the thigh region; and in addition there are at least three muscles which conform to the term "glutæus" more satisfactorily. This muscle has an extensive origin both by tendon and muscle fibres. The former commences from the posterior two-thirds of the pre-acetabular portion of the dorsal crest (medial border) of the ilium, and the latter continues

posteriorally over the post-acetabular iliac plateau as far as the tuber formed by the union of the ilium and ischium (sciatic tuber). The origin is further complicated by muscle fibres arising from the lateral surface and the associated posterior border of the ischium: in this region also it is seen that fibres of the superficial muscle of the thigh unite with those of the *M. semitendinosus* and underlying biceps muscles.

The fascia on the medial surface of the cranial portion of the "*M. cruris superficialis*" sends an aponeurotic sheath to clothe the middle gluteal muscle. Ventrally it gives some attachment to the *M. rectus femoris,* but is more closely adherent to the muscle fibres of the lateral vastus muscle, forming their lateral sheath; it inserts itself in common with them to the patella and patellar ligament.

The posterior portion of the muscle inserts by tendon to the lateral aspect of the leg, covering the muscles arising from the proximal half of the tibia and fibula.

Turning to the gluteal region (pre-acetabular region of the ilium) comparable with that of the dog, Kaupp names two muscles only (*Mm. gluteus medius* and *gluteus minimus*), whereas by careful dissection it is possible to reveal *four* gluteal muscles and a fifth, hitherto unmentioned muscle. The two new gluteal muscles may appropriately be named "*M. glutæus superficialis*" and "*M. glutæus accessorius.*"

The most superficial of the gluteal muscles lies adjacent to the main, middle gluteal muscle, and apparently has not been separated from it before by dissectors. Its origin is from the posterior third of the dorsal crest of the ilium immediately above the acetabulum and partly by thin fascia from the antero-dorsal aspect of the rim of the sciatic foramen, and its insertion is by a flattened tendon to a small tubercle ("*trochanter tertius*"?) at the base of the femoral trochanter. The muscle is thin and triangular, strengthening the upper part of the joint capsule.

The middle gluteal muscle is described by Kaupp, but it should be noted that the insertion is by a stout, short tendon to a ridge on the lateral surface on the femoral trochanter, just in front of the tendon of insertion of the superficial gluteal muscle.

Kaupp describes the third muscle of this group as "*Gluteus minimus,*" but if it is accepted that there are four gluteal muscles, then this term is incorrect and the synonym *M. glutæus profundus* is to be preferred.

In removing the middle gluteal muscle from the concave surface of the ilium, great care is necessary, otherwise in the deepest parts there will be removed also a fourth muscle. This, which may for convenience sake be termed the accessory gluteal muscle (because of its relationship to the preceding muscles), arises from the dorsal surface of the lateral concave border of the ilium (pre-acetabular notch). Its insertion is by a flattened tendon to the cranial portion of the femoral trochanter between the insertions of the middle and deep gluteal muscles.

The fifth muscle of the gluteal region is very small and takes origin from a limited area on the ventral aspect of the pre-acetabular notch of the ilium, adjacent and posterior to that of the "*M. glutæus accessorius.*" Its fibres radiate downwards and backwards and insert on the medial border of the femur just above the origin of the "*M. vastus medialis,*" below the head of the femur. The shape and location of this muscle suggest the term *M. piriformis.*

M. femoro-caudal.—This muscle, absent in the domestic mammals, runs, as its name implies, from the femur to the tail. It takes origin by a thin rounded tendon which flattens out fanwise from the base of the pygostyle, in close proximity to the insertion of the *M. depressor coccygeus.* As a strip-like muscle it passes downwards and forwards in front of the two lateral depressor muscles of the tail, thence between the semitendinosus muscle and the pubis. Lying lateral to the semimembranosus muscle, it runs forwards and tapers to a fine tendon which is inserted on the posterior surface of the femur at the junction of the first and second thirds. During the latter part of its course the femoro-caudal muscle is associated with a second muscle which is not described by Kaupp. This is a thin, flattened, irregularly-quadrangular muscle lying close to the external obturator muscle, with which it may possibly have been confused. It takes origin from the ventral aspect of the caudal half of the lateral crest of the ilium (post-acetabular portion) and the adjacent part of the ilium, forming the dorsal border of the sciatic foramen, also from the upper half of the lateral surface of the ischium. The muscle lies lateral to the *M. obturator externus,* and medial to the *M. biceps femoris.* It inserts as a thin muscular band to the upper third of the posterior surface of the shaft of the femur, below and behind the insertion of the external obturator muscle. From its shape and relations, it would seem advisable to term this the *M. quadratus femoris.*

The last muscle of the thigh, which does not appear to have been studied by Kaupp, is one lying medial to the femur. A long slender muscle having an eccentric course, it arises by muscle fibres from the ventral border of the iliac process lying antro-ventral to the acetabulum. The muscle, lying parallel to the femur, runs towards the knee joint, and in the region of the last quarter of the femur the muscle tapers to a fine tendon. This continues medially as far as the patella, which it crosses by means of a small flattened area situated ventro-medially on that bone. The tendon now deviates to the lateral aspect of the leg by passing *through* the patella ligament. It appears to give some attachment to the "biceps band," but finally ends by joining the tendon of

origin of one of the components of the superficial flexor muscle.

For some considerable time it has been recognised that new anatomical structures should receive names descriptive of their function, position, size or shape rather than, as in past times, names bearing upon the investigator concerned. In this instance *M. medio-lateralis latæ* appears practicable and appropriate.

Mm. gemelli.—Kaupp only mentions one gemellus muscle, but in reality there are three. As very short muscles they arise from a small fossa between the acetabulum and the pubis, immediately cranial to the obturator foramen. Some fibres radiate to insert to the nearest point on the ventral border of the femoral trochanter, others run to the lateral surface of the trochanter alongside the insertion of the *M. obturator internus,* whilst a few fibres run to insert into the substance of the tendon of the internal obturator muscle immediately after it emerges through the foramen.

M. obturator internus.—Kaupp gives the origin of this muscle as from the ischium and pubis, but in reality a large portion arises in addition, by muscular digitations from the ventral surface of the ilium above and behind the sciatic foramen.

The stout tendon of insertion is composed of four or five members; these pass as a band through the obturator foramen. A fine tendon from the most anterior portion of the muscle, attached to the ilium covering the sciatic foramen, is inserted to the ventral border of the "*ramus acetabularis*" of the ischium bounding the obturator foramen.

Summary

Notes are given concerning the origins and insertions of certain of the thigh muscles of the domestic hen.

Five muscles undescribed by Kaupp are recorded with the following suggested nomenclature:—

(1) *M. glutæus superficialis.*
(2) *M. glutæus accessorius.*
(3) *M. piriformis.*
(4) *M. quadratus femoris.*
(5) *M. medio-lateralis latæ.*

SAFETY GLASS REGULATIONS: AN EXPLANATION

Considerable confusion appears to be prevalent concerning the Safety Glass Regulations under the Road Traffic Act, which became operative on January 1st last. The Automobile Association emphasises that vehicles which were registered after January 1st, 1932, irrespective of the year of manufacture, must be fitted with safety glass. For example, if a motorist purchases an unregistered 1931 model not so fitted, it is an offence to use the vehicle without complying with the Regulations. The short point is that it is the date of registration, and not the year of manufacture which is the determining factor.

The A.A. further points out that contravention of the Regulations may involve a fine of £20.

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VETERINARY TREATMENT OF SICK ANIMALS OF THE POOR

FOR countless years the veterinary practitioner has given of his skill in the gratuitous treatment of the sick animals of the poor, often receiving as his reward the lasting appreciation of the deserving owner. With the advance of the times, and the increasing importance of the small animal pet, it is surprising that the fact that veterinary surgeons have always been ready to use their knowledge for the welfare of the animal has been overlooked by many owners, some of whom might be expected to know better.

We welcome, therefore, the response of the divisions to the various suggestions submitted for their consideration by the N.V.M.A., and we trust that at no distant date in the future they will have set in operation methods most suitable to their own local conditions, of which they alone can have full knowledge.

The broad purpose of all schemes is to intimate to the animal-owning public that the best available professional services can be secured for their pets, irrespective of the owner's ability to pay for those services. Other considerations of detail are secondary to the main principle. Certain towns may consider the collection of sick animals at a central point the most suitable method for their purpose, other districts may decide that individual practitioners, working on their own premises, can adequately supply the need, in either case with or without the help and influence of sympathetic non-professional administrative workers. The divisions can perform the most valuable services in the necessary negotiations prior to the inauguration of the selected plan or plans, and in the subsequent supervision and co-ordination of the methods adopted within their areas.

Inevitably any plan will require minor adjustments as experience of its working is accumulated, but with good-will, and a determination to succeed, on all sides, it is well within the bounds of human endeavour ultimately to weld into a thoroughly efficient service the various schemes now operating, and yet to be launched in different parts of the country.

There is readily available in every town the splendid example of the General Hospital. As the welfare of the sick or injured human patient is the first consideration to the Hospital, so also is the welfare of the sick or injured animal to

the veterinary practitioner. The administrative details of the former can be adapted, with minor modifications, to the method selected to deal with animal patients, to the advantage of the patient, the owner, and the practitioner himself. The successful working of veterinary hospitals during the war affords ample evidence of the truth of this fact.

It is no flight of fancy to visualise properly organised veterinary hospitals, in large centres of population at least, in which practitioners may treat patients likely to benefit from such a procedure, and the additional advantages of easy consultation with their colleagues. The honorary appointments of Surgeon, Obstetrician, Pathologist, etc., may well become coveted honours, serving to advance veterinary science, and concurrently the lot of the animal patient.

Possibilities of this nature are for future evolution. While they should not be disregarded entirely, the immediate task is to develop suitable local schemes in their more elementary form, energetically and with a minimum of delay.

It is well to remember that our motto, translated as " Strength is made stronger by Unity," acquires an added significance in these undertakings, and by bending itself to the task before it, however long the road, we may be assured that the profession is fulfilling its destiny: the alleviation of dumb suffering, coincident with the improvement of the means to that end.

We confidently commend this matter to the divisions, and would assure them of our constant desire to be of assistance to them, by personal contact or otherwise, at all stages of their endeavour to inaugurate this humane work on a stable basis.

SLAUGHTERING AND MEAT HANDLING

A vast scheme for scrapping the present methods of handling meat supplies and substituting a nationally-organised system is urged by a sub-committee of the Economic Advisory Council to the Cabinet. The Report urges the setting up of enormous meat factories near each of the large consuming centres; scrapping present out-of-date privately-owned slaughterhouses; abolishing present methods by which most farmers sell their fat cattle and pigs. The Committee reports in favour of an immense meat factory under public control to be established a few miles north of London, capable of dealing with at least 500,000 cattle a year.

In this connection, it is interesting to note that Earl De La Warr, Parliamentary Secretary to the Ministry of Agriculture, speaking to farmers at Leicester, emphasised that his Department was considering the reorganisation of the meat industry from the point of view of the slaughtering arrangements.

Clinical Communications

INVESTIGATION OF SUSPECTED LIGHTNING-STROKE

The Lancashire V.M.A. Scheme of Enquiry

H. CAULTON REEKS, F.R.C.V.S.,
Spalding

In offering my comments on the Scheme of Enquiry into Alleged Lightning Stroke as drawn up or suggested by the Lancashire Veterinary Medical Association, it occurs to me that the compilation of a symposium containing the opinions of those of us who have had experience in dealing with claims against insurance offices for injury or for death from lightning stroke ought to be of some value. At any rate it is from that view-point I have examined the scheme, and I find that my remarks thereon may be brief.

During the past thirty years I have had considerable experience in clearing up these claims for many of the livestock offices, and at the outset of my few remarks I may say that if thirty years ago such a form as has now been drawn up had been available it would have been of great assistance.

I am assuming that such a form would have been in print, and copies of it in the hands of the man setting out to make such an enquiry. He would then have had something which would have stood to him in the way of an excellent "jump-off," and on his return from his enquiry would have felt secure in the knowledge that no reasonable path of investigation had been left untrodden. He would have been sure of his data, and correspondingly convinced of the correctness of any report based thereon.

I think I am right in saying this, if only for the reason that those of us with a record of many such investigations behind us will realise that consciously or unconsciously we have for ourselves already formulated some such line of enquiry.

On reading through the list of enquiries that it is suggested should be made I note one omission. But this omission is an important one. I will number it paragraph 20.—"*Look for Evidence of Sudden Death.*" When such is found it is sometimes decisive, especially when taken into account with the incidence of storm. As an instance I will mention what I have several times found in cases of indisputable lightning stroke, namely, a tuft of grass clenched tightly between the locked incisor teeth, evidently the last bite of herbage cropped off by the animal at the moment it was struck to the ground.

If I may be allowed to offer adverse criticism of any kind, I may say at once that I consider the suggested form of certificate far too terse. It has always seemed to me only fair that the person or persons entrusting to us such a responsible duty as that of clearing up one of these

claims should at the conclusion of the enquiry be put in possession of the facts as we have found them, in order that they, too, may be allowed some share in assessing them at their true value.

More particularly does this apply when the enquiry is being made on behalf of some insurance office, and my own procedure in such cases has always been to give in detail the line of enquiry followed, and my reasons for arriving at the opinion given.

And to my mind the best form such a report can take is that of the ordinary letter. One can then commence: "Dear Sir, or Sirs, Acting on the instructions contained in your letter, telegram, etc., I have to-day visited . . . . ," and then go on to relate, in narrative form, exactly what animal one has been asked to see, how and where it was found, the incidence or otherwise of storm; the names, addresses and evidence, if any, of witnesses or of persons interviewed and questioned, microscopic and *post-mortem* findings, etc., etc., concluding with a paragraph summing up the collected evidence as it appears to oneself, and stating what reasons have led one to the final opinion of "Lightning," "Not Lightning" or "Doubtful."

My own experience is that a report of this kind is appreciated; and it must be that with the full facts in this way before them the officials of the livestock office feel themselves in a position there and then to settle, to compromise, or to repudiate the claim.

. . . . . .

S. J. MOTTON, F.R.C.V.S.,
Penzance

It is clear that those responsible for the drawing up of this scheme have made a careful effort to endeavour to reduce the difficulties experienced in the investigation of lightning cases. It is so very easy to find fault, and often so very difficult to produce something better than the matter criticised, that one experiences a sensation of diffidence in indicating what appear to be defects in the scheme under consideration. However, both in the introductory remarks and in the list of queries there appear to be weak spots which require elimination.

In the introductory remarks there is a passage which reads as follows: "The practitioner must do his best for an owner in an exacting examination. The veterinary surgeon for an insurance company has simply to find out the truth and advise accordingly so that his client may settle, compromise, or refuse to admit liability. It is not expected of him to take sides." My view is that neither veterinary surgeon should be expected to take sides. The duty of each of the veterinary surgeons is precisely the same, and that is to attempt to discover whether lightning was connected with the death or injury.

Another paragraph reads as follows: "Although it was admitted that the difficulties may be great, it was felt that the margin is OFTEN too wide to be attributed to pure error in diagnosis." I have put the word "often" in small capitals. Every calling probably includes in its list of members an occasional scoundrel, but it is to be hoped that the general experience does not justify the use of the word "often" in this connection.

In practically all cases suspected to be connected with injury by lightning, there are two preliminary precautions which must be observed in the case of deaths, and one in the case of injuries which have not resulted in death.

(1) In the case of death, anthrax must first be excluded, for there is no reason why an animal should not die from anthrax during a lightning storm. In the absence of an unequivocal lightning burn, or other definite evidence as to cause of death, this applies to all cases.

(2) In the case of injury and/or death, one must be satisfied that lightning did occur at a time, and within a distance, which would make it the fair object of suspicion.

The fact that these preliminary steps are so frequently necessary is sufficient evidence of the difficulties with which one may be confronted in the investigation of cases of the kind.

In the struggle to omit nothing of importance, the scheme seems to have been overloaded in a manner which might easily lead to confusion in the mind of anyone not *au fait* with what is known about lightning cases.

Some uncertainty might be created by the special marking of some of the queries.

For instance, the questions which bear the numbers 11, 12, 15, 16, 22 (*c*), 25, 27, 29, 34 and the end of 36, are stated to be suggestive of lightning if answered in the affirmative. This is correct, but they could all be answered in the negative, and the injury or death could still be quite consistent with lightning stroke, provided that it has occurred.

There is no special note in connection with No. 28, which deals with fractures. To some this might suggest that fractures are not suggestive of lightning, whereas some fractures are very suggestive of injuries by this force.

Similar objections apply to questions 34 and 36. In No. 34 reference, without special mark, is made to rupture of the stomach, but lightning can be responsible for this injury even without external evidence of damage.

No. 36 would appear to indicate that asphyxia is contra-indicative of lightning, for the end of the question is marked as being suggestive in connection with the pleura, lungs and heart. This is probably not intended, for the findings in death by lightning may be just those of asphyxia.

The order in which the questions are placed does not appear to be the best possible, but that

is a matter so easy of adjustment that space need not be occupied by further reference to it.

There are a few other points which may be worth consideration.

Question 5.—Some alteration in the form of the question is desirable. The visit of a veterinary surgeon may be immediately after the accident, or it may be days later. It is not unusual for other animals to have been removed before the visit. The information required is how many animals were at or near the place (field or elsewhere) at the time of the storm. Caution must be observed in a statement as to how many animals have been injured, if the inspection is made soon after the occurrence of lightning, for symptoms do not always appear immediately. They may certainly be delayed for a week, and possibly a good deal longer than a week.

No. 12.—Fish in ponds have been killed by lightning. There is apparently no reason why they should not be killed in streams. On the average, dead fish in ponds would be better evidence than those found in streams, for the latter may have been killed at too great a distance from the place under investigation, and have drifted down stream. However, it is useful information. Dead fish in ponds and streams must not be accepted without further enquiry. Salmon and trout have been killed by parasiticides, etc., gaining access to the water. Some years ago, half-a-dozen yearling cattle were found dead near a pond. The pond contained thousands of dead tadpoles. There had been no lightning. Heavy rain had washed arsenic from mine dumps into the pond.

No. 24.—It is correctly stated that *rigor mortis*, when slight and fleeting, is suggestive of lightning. But it must not be overlooked that *rigor mortis* may be well established in 12 minutes in lightning deaths, and may be seen at least 12 hours after.

No. 25.—Here there is a reference to one type of wound which may be caused by lightning, but it can also be responsible for laceration, which may be clean cut or irregular, superficial or deep.

No. 27.—In connection with burns it may be observed that most cases in man appear to be associated with this type of lesion, and Tapken (quoted by Hutyra and Marek) says that 90 per cent. of cases in animals show burns. When this question was discussed at Torquay in 1927, I gathered the impression that many veterinary surgeons in this country were inclined to consider this figure too high.

No. 29.—Here reference is made to the presence of a high temperature after death by lightning. It must be remembered that lightning is not the only condition responsible for high temperatures after death. In addition to death resulting from electricity, high temperatures may be found in some cases of strychnine poisoning, and in tetanus.

No. 34.—Part of this question asks "Are there any subcutaneous hæmorrhages without bruising and dark blood?"

It is stated that an affirmative reply suggests lightning. It may be that the absence of punctuation makes this query difficult to follow. Bruising is one of the conditions caused by lightning.

Probably the most typical subcutaneous picture is engorgement of the subcutaneous veins with dark, liquid blood. It is not diagnostic.

No question appears to ask for the appearance of the skeletal musculature.

The suggested form of certificate makes no provision for reports on injuries which fall short of death.

There is a danger, if a scheme of enquiry were to receive an official recognition by the N.V.M.A., that insurance companies might adopt it as a standard form for use in lightning cases. In its present form, the scheme of the Lancashire V.M.A. might lead to trouble.

The scheme requires simplification. The queries without the suggestions would probably be better than the scheme as it stands, and I think further consideration of the matter is desirable.

There are other difficulties in connection with it, but enough has been said to indicate why my view is that the scheme requires some improvement.

There is probably no more difficult class of case for which to frame a scheme than the one under consideration.

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"A FEW NOTES ON RECENT LOSSES IN CATTLE"

J. V. S. RUTTER, M.R.C.V.S.,
Hereford

Having had experience of the outbreak dealt with, under the above heading, by Mr. Wooff in your last issue, I trust that the following notes thereupon may be of interest to your readers:—

The startling headlines, relative to this outbreak, which have appeared recently in local and national newspapers, have probably suggested to the outside world that this country is being swept by some dread bovine scourge and that our pedigree stock are dying like flies every day. May I say at the outset that I am of the definite opinion that the complaint is one of calcium deficiency. The reasons why such large numbers of cattle have been affected this season are somewhat difficult to explain. Possibly the lack of sunshine last year and the extremely wet season have adversely affected the protein and mineral content of the local food and "keep." It should be noted that the pedigree Hereford herds (in which the majority of cases have occurred) are allowed to run out at pasture until calving time and few receive anything in the

nature of concentrated rations. ("Herefords" are notably good "doers" on inferior keep.) With reference to the calcium deficiency of certain pastures and the effect on animal metabolism, two short articles in the *Veterinary Record* of February 27th (pp. 249-250) are of considerable interest.

Symptoms.—Symptoms of a typical case—untreated—are as follows: Slight quivering of the muscles of the hind limbs, disinclination to move, and slight stiffness or unsteadiness of gait in the hind limbs when forced to walk. Quickly following this (in an hour or so) the above symptoms are all intensified. The cow appears to be trembling all over and there is pronounced incoördination of movement. The head is extended and usually elevated, and the eyes are staring. There is excessive salivation and "champing" of the jaws and often grinding of the teeth. Respiration is accelerated, pulse rapid and hard, temperature 103°-104° F. An almost diagnostic symptom at this stage is the hyperæsthesia. The slightest noise or sudden movement—the opening of a door or the flutter of a handkerchief—will cause an extra-violent attack of trembling; the facial muscles and eyelids will twitch violently, the eyeballs appear to "quiver" and the cow actually seems to "shrink" from the direction of the noise or movement. In no case have I observed any tendency to violence on the part of the patient. After staggering about its box, the animal goes down and more alarming symptoms are shown. There is pronounced dyspnœa, the pulse is very rapid and the temperature rises to 105°-107° F. In some cases there is excessive perspiration. The animal is quite unable to rise, the head, neck and limbs are outstretched and stiff and there is pronounced trismus. Epileptiform fits of 5 to 20 minutes duration occur and during one of these the cow usually dies. The symptoms immediately preceding death remind one at once of a dog with acute strychnine poisoning.

The first cases I saw made me suspect some form of poisoning, but detailed investigations negatived this theory. Examinations of various specimens from affected animals failed to reveal any anærobic bacilli, but from one case was isolated a small, gram negative ærobic organism. This proved to be non-pathogenic when cultured and subjected to biological tests. Chemical analysis of blood from affected animals showed a constant deficiency in calcium—up to 50 per cent. below normal—and these results, combined with a study of available literature on the subject, convinced me that the disease was one of calcium deficiency and I commenced treatment accordingly.

Treatment.—My routine treatment now is as follows:—Hypodermic injection of 100 c.c. injection dextro.-calcium (Willows') repeated at six-hour intervals until definite improvement is shown. (If seen in the very early stages one injection usually suffices.) Inflation of the udder with oxygen (I consider this empirical and certainly of far less importance than the calcium injection). Powders of calcium, iron and pot. iodide to be mixed with ½-lb. black treacle and warm water and given as a drench every four hours until improvement is shown; and then gradually lengthen the interval until recovery is complete. When the appetite returns give a concentrated feed (oats, cake, etc.) and the best hay available. Twice a day—in the food—give a balanced mineral mixture plus ½-lb. treacle. To all other similar animals on the farm I advise giving, once a day, in a damped feed, one or two ounces of a mineral mixture containing steamed bone flour, sodium chloride, iron, sulphur and pot. iodide—plus ½-lb. black treacle. I suggest doing this for three weeks before calving and continuing for two months after calving.

In my experience the above curative and prophylactic treatment has met with marked success and I shall be glad to furnish exact proportions of the mineral mixture to any practitioner desiring them. As far as my present knowledge goes, cases presenting similar symptoms to those described have occurred only in cows and heifers (not in males) and in my own practice cases have occurred from two weeks before calving up to three months after calving. I have only seen three cases prior to calving (excluding, of course, typical milk fever cases) and these—despite intensive treatment—have all proved fatal.

Post-mortem.—*Post-mortem* examinations of fatal cases show very few abnormal lesions. In most cases congestion of the lungs is seen and there is some congestion of the meninges. In all cases the liver appears pallid and friable and suggests fatty degeneration. I regret that a detailed pathological examination of this organ was not made. There is generally a mild enteritis.

It is possible that in the early stages of the disease and when cases occur two or three days after calving, one might be inclined to diagnose milk fever; but when the pronounced hyperæsthesia and trismus are shown, together with the high temperature and dyspnœa, there is little difficulty in differentiating the two diseases.

There is no doubt that during the last few months this disease has caused extensive and serious losses not only in this county but in many parts of the British Isles, and, looking back on the comparatively few years I have been in practice, I can visualise many cases of sudden death in cows ("heart failure," "stroke," "poisoning," etc.) that may have been—and probably were—cases of this self-same disease.

I may add that cases in ewes—showing

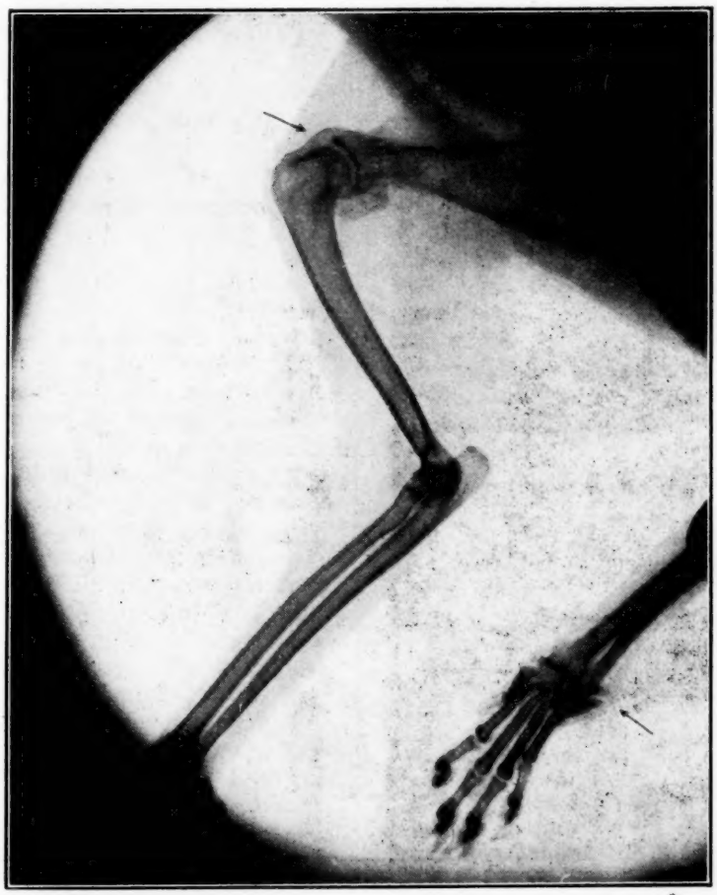
(*Continued at foot of next page.*)

FELINE RHEUMATIC ARTHRITIS

Hamilton Kirk, m.r.c.v.s.

What I regard as a unique case passed finally through my hands recently. I first saw this cat about a year ago, being told that the animal was lame on its off-foreleg. Manual examination revealed no cause for the lameness and I concluded that sprain of a tendon or muscle had occurred during an awkward jump.

I heard no more about it until some three or four months later, when I was surprised to learn that the lameness had persisted and was now worse. I found the leg was held in an abnormal way, seeming to be stiff and cumbersome, and all joints somewhat unduly flexed. I could not determine the cause of this, so took a radiograph. This, however, revealed no abnormality. The owner was frankly told that the reason for the lameness could not be ascertained; but as the animal was otherwise healthy and apparently well, it was agreed that nothing should be done.



After a further lapse of months, I was called again last week as the cat was lame in its near-foreleg. This time I could discern a well-marked exostosis over the carpus, which joint could be only partially extended. Examination of the off shoulder revealed immobility, and I at once diagnosed rheumatic arthritis, a condition I have never encountered in the cat during 20 years of practice. In fact, in my book "Diseases of the Cat," published in 1925, I openly stated that rheumatism should be included among the list of diseases to which cats were not susceptible.

This particular patient was nine years old and its forelegs were permanently bent and useless, as are the limbs of human beings suffering from arthritis deformans. Destruction was advised and permitted, but I took the opportunity of again radiographing the affected limbs. The shoulder joint seen in the illustration shows a dark area surrounding it—which I found on dissection to be calceous tissue, the joint being completely ankylosed. This in itself is a lesion of great rarity among domestic cats.

The picture also shows a marked exostosis over the carpal bones of the left leg, and on boiling out the limbs I found that osseous outgrowths existed on the elbow and carpal joints of the right leg also. Further investigation of the carcass revealed bony nodules on the last three ribs of either side, the ribs themselves having first become bent outwards and downwards so as to form a funnel-shaped opening to the thoracic cavity. Examination of the heart proved this organ and its valves to be healthy

One next has to consider the cause of this condition, and with my knowledge of the cat's home and owner I can rule out such factors as cold, damp, and darkness, etc. If it was an infection I would have expected an accompanying endocarditis, or some other implication of serous membranes. Tuberculosis, perhaps, was at the root of the matter, but the necropsy did not support that view, nor have I any experience of tuberculosis in the bones of cats.

If any reader is sufficiently interested in the incidence of articular rheumatism among felines to wish to see the bones pertaining to this case, I shall be pleased to show them.

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similar symptoms to those described above—are being frequently brought to my notice during the present lambing season.

I apologise—in advance—for the shortcomings (both literary and scientific) of this article, but my experience of this complaint is still somewhat limited and the disease will—no doubt—be dealt with by more competent contributors.

TETANUS IN A CAT

C. G. Hopson, m.r.c.v.s.,
Golders Green

Subject.—All-black, short-haired male kitten, aged from 4½ to 5 months.

History.—This animal was brought to me on January 22nd for castration. The operation was performed and the kitten returned to the owner the same evening. On January 28th the owner 'phoned me saying that the kitten seemed to have difficulty in masticating; I suggested seeing the animal, but it was not till the 30th that it was brought round to my surgery, when the condition was very much worse.

Symptoms.—The gait was stiff (the hind legs in particular being affected), tail erected, membrana nictitans protruded and trismus well marked. The temperature was 1½° subnormal.

I suggested anti-tetanic serum, but the owner demurred on the ground of expense, etc., and asked me to keep the animal for 24 hours.

By the next morning the animal was so stiff that it was unable to stand, and could be lifted up by the hind legs without the body sagging. The slightest sound (such as snapping the fingers) caused a convulsion, as did gently touching the body with the hand. Opisthotonos was pronounced and trismus almost complete. The animal was destroyed as the case was, to my mind, hopeless.

It would have been interesting to see the effect of serum on this subject had the animal been brought round when symptoms first appeared. The scrotal wounds (the obvious ports of infection) appeared to be healing normally, and there was no suppuration or local tenderness.

THE HORSE AND THE SHEPHERD KINGS

Sir Flinders Petrie, in a report received in London recently, describes the effect of the first coming of the horse to Egypt and Palestine and how it led to the dismemberment of Egypt. It was a year ago that Sir Flinders, in his excavation work, discovered the remains of the first known horse in that country.

Over 4,000 years ago, says Sir Flinders, in his new report, Palestine was surprised and terrified by the intrusion of the horse from the East. A comfortable, rich, and sleepy population—countrymen ambling on donkey-back—found themselves suddenly overwhelmed by troops of horsemen, who seized the land and lived on the public by force. These strange people were unskilled in any arts except that of herding sheep. They broke up all government, and even the well-settled power of Egypt was shattered and fell to pieces.

These horsemen, the Hyksos (the Shepherd Kings), came in through Palestine and held the Delta. The old Egyptian State was split up into two kingdoms of Memphis and Edfu, while the great Kings of the Shepherds became suzerains of both Egypt and Palestine. The Egyptians so hated them that very few traces of these horse-riding kings can be found.

Annotation

ACTIVE IMMUNISATION IN VIRUS DISEASES

As has been emphasised by Horder,[1] now that we must regard treatment based on the "opsonic index" hypothesis as entirely empirical, the field of active immunisation is free for fuller exploitation. The common ideal of the divers means in which specific antigen has been served out to the tissues of the infected patient or the subject it is sought thereby to protect, is to induce an immunity which shall be as solid and lasting as that which follows a natural attack in a number of diseases. In this connection, virus diseases form a potentially-fruitful field of comparative study, while it is desirable that, by reason of the element of risk inherent in processes of active immunisation, the results of such research should primarily be applied to the lower animals.

"Active Immunisation in Virus Diseases," therefore, constituted a particularly fitting subject for discussion by the Royal Society of Medicine in November last.[2] It was early made clear that the measures at our disposal in attempting an approach to the induction of a solid immunity in virus diseases are limited to those which are productive of a mild—perhaps inapparent—attack of the disease: by the use of an attenuated virus, or by inoculating fully virulent virus into a partially immune animal. As readily accepted was Andrewes' further contention that those who hold that the solid immunity left by many virus infections is associated with persisting latent infection with virus would not expect to find a persisting immunity without the use of a method of immunisation involving the injection of living virus: immune animals, indeed, may be immune because they are persistent virus carriers. The possibility must not be overlooked, however, that some vaccinated animals may respond abnormally and develop an infection sufficiently severe to enable them to infect others.

The force of the view that the establishment of durable immunity is to be credited to the persistence of living virus in the recovered animal was admitted by Dunkin, inasmuch as the administration of virus must take some place in its creation, yet there is a complete absence of evidence in support of this contention in the case of dog distemper, and all attempts to isolate the virus from recovered or immunized animals, even from those suspected of being carriers, have failed. Immunity to an attack of natural (virus) distemper, however, appears to be complete in the vast majority of cases. This durability, which

[1] *Lancet*, No. 5656, Vol. ccxxii.

[2] Section of Comparative Medicine of the Royal Society of Medicine. Reported in the Society's *Proceedings*, Vol. xxv, No. 4, February, 1932, pp. 451-462.

is common to the immunity produced by a natural attack in a number of virus diseases, is apparently absent in foot-and-mouth disease—a fact for which plurality of virus is probably responsible.

Of the various methods in vogue of immunising against distemper, the use of formalinised virus is productive of the most successful results and is that in general use to-day. Dunkin stressed the importance of the fact that the "vaccine" is highly specific for the species, and the fact that by far the larger proportion of fur-bearing animals belong either to the Mustelideæ or to the Canideæ suggests that it should be possible to immunise them against the types of distemper, to which they appear to be subject, by the use of ferret or dog "vaccine" respectively.

Bedson was of opinion that experiments previously recounted by Tulloch afforded ground for hope that the desired production of the maximum degree of immunity with the minimum degree of danger to the patient might be achieved along the lines of immunisation with neutral serum-virus mixtures. His plea for further research on the employment of killed virus, however, drew from Glover the comment that, on the whole, the results obtained with inert emulsions in the active immunisation of animals have been disappointing and that, generally speaking, combinations of serum with fully virulent material (serum-simultaneous methods) have proved the most satisfactory.

Despite the ubiquitous distribution of the "street" distemper virus, veterinary practitioners will share with Wooldridge his desire to be reassured in regard to the possible infectivity of the vaccinated subject during the period of development of an active immunity, with particular reference to inoculation in hospital.

W. B.

HEAVY HORSE BREEDING

"Although heavy horse breeding has not been so prosperous or so profitable in recent years as it was during the war and before the war, there has always been an encouraging demand for sound draught horses of weight and quality," says the *Scottish Farmer*. "These have never been too plentiful for the market, and those breeders who have been able to supply them have not found horse breeding altogether unprofitable. An unfortunate feature of the past two or three years has been the almost complete disappearance of the export trade, due to depression and financial stringency in the Dominions; but there are now good prospects of an improved demand, and the reports of the Clydesdale Horse Society and the Shire Horse Society for the year 1931 both strike a note of optimism in referring to the future."

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Arrangements are now in hand by the National Milk Publicity Council for a cinematograph van tour for a period of ten weeks, when films illustrating the food value of milk will be shown in villages and towns over an extensive area. The van will be accompanied by a lecturer from the Council.

Abstracts

[A Short *Résumé* on Rectal Examination in the Horse.* Reisinger, Dr. *Tierärztl. Rundschau.* 1931. Vol. 37, Nos. 41 and 43.]

This is a systematic paper on rectal exploration. The author's technique is orthodox; he recommends a watery enema for the purpose of clearing out the rectum and the liberal use of oil on the examiner's arms, which should both be employed unless it is definitely desired to explore one side of the abdominal cavity only. The pelvic organs and the pelvic girdle are easily palpable. It is often useful, when examining the abdominal organs, to employ both hands, one inside and the other outside, particularly when examining cryptorchids. The left large colon is palpable low down in the left of the abdominal cavity and dorsally the left kidney is within reach. From here the cranial mesenteric blood vessels are reached by passing the hand forwards and towards the median line. From there, the abdominal aorta can be traced back and its iliac branches also followed. The relatively immovable duodenum can be felt behind and a few inches below the root of the mesentery. The cæcum is prominent in the right flank, but the ileum is not easily made out. The small intestine and small colon fill in the space between the viscera referred to above: they are present mainly in the left side of the abdomen. The spleen is sometimes palpable far forward on the left side against the abdominal wall and an enlarged liver is occasionally palpable on the right. The ovaries in mares are easily found suspended in the sublumbar region. They should not be manipulated much or at all during pregnancy.

The author quotes many opinions about the problem of torsion of the large colon. The causes of this are varied; they include tympany with displacement of the cæcum; obstipation of the left dorsal colon; thrombosis of the ileo-cæcocolic artery; torsion to the right caused by the left dorsal colon, when full or overloaded, falling over to the right if the horse lies on its right side and remaining displaced after it has risen.

There is no uniformity of opinion as to the value of the position of the pelvic flexure of the large colon in the diagnosis of twist. The author states that, when displaced, it usually extends further backwards into the pelvic inlet.

For the treatment of twist of the colon, manipulation from inside and outside are valuable and it is a good thing to puncture the cæcum as a preparatory measure.

*Our first three abstracts will, it is believed, be of particular interest as supplementary to Mr. Magee's paper on Vaginal and Rectal Exploration, published in our issue of February 20th.—Ed. *V.R.*

Changes in position of the small intestine and small colon are relatively easily discovered by rectal exploration.

Volvulus of the small intestine can be diagnosed with surety when one can feel the actual twist, and can be suspected when one can feel a cord in the mesentery originating from the root of the latter. If great local tenderness is present without other positive signs, a twist is also to be suspected.

Intestinal strangulation occurs in various forms. It may be caused by the reno-splenic ligament; by a lipoma; and by migration of small intestine into the inguinal canal. Diagnosis of the first is established on anatomical grounds, of the second by findng the occlusion ring, and of the third by palpation from inside and outside. Pain is acute in the earlier stages and collapse supervenes when mortification of the incarcerated bowel sets in. Intestinal invagination presents rather a characteristic feeling on rectal examination if one can reach it easily. The presence of blood in the colon supports the diagnosis of this condition. Corded bodies usually are composed of mesentery in cases of intestinal displacement or twist, though small intestine in a condition of spasmodic contraction feels cordlike.

Palpable tumours in the mesentery are usually tuberculous or are composed of strangles abscesses. The latter often have a fluctuating centre, whilst the former are uniformally hard and are often accompanied by diarrhœa. Neoplasms are rare. Cryptorchid testicles are tender on pressure and are felt near the inguinal ring. Thrombosis of the mesenteric artery is not diagnosable with certainty by rectal examination: the part may be greatly swollen. Peristalsis only observable in a small region of the abdomen instead of being general supports a diagnosis of thrombosis.

The healthy peritoneum feels uniformally smooth: roughness is a sure sign of acute peritonitis and in this condition tenderness to touch is extreme.

The author gives some interesting statistics of colic in army horses. Of 1,655 horses treated for colic over 10 years 12 per cent. died. Of these (208), 40 were cases of rupture of the diaphragm, stomach or intestine; 49 of volvulus of the small intestine; and 70 of volvulus of the large colon. Various acute intestinal conditions were present in 33 cases. Arterial aneurism was extremely common during many years (undated) in Budapest (over 30 per cent. of colic cases). This is far above the average for other regions. The author concludes with a scheme of the common colic treatments and refers favourably to the use of arecoline and of the stomach tube in cases not obviously contra-indicated.

J. T. E.

[The Anatomical Fundamentals of Rectal Exploration on the Ox.* Kadletz, M. *Deutsch. Tierärztl. Woch.* 1931. Vol. 39, No. 43.]

This is a scientific paper of the highest standard showing a wide study of the subject. It follows a similar paper concerning the horse (not seen by the abstractor).

After an exhaustive anatomical survey of the parts concerned, the author describes the anatomy as perceivable by rectal exploration. Rectal exploration in cattle is much simpler than in the horse because of the small space in the abdomen left over by the rumen for the remaining viscera.

The rectum does not run straight into the colon, but has a sigmoid curve opposite the pelvic inlet. This curve is to the right and in its concavity the caudal mesenteric blood vessels arise. The exploring hand should traverse this curve gently or else considerable resistance may be felt. From it, the hand should be directed slightly upwards in order to enter the colon. In the pelvis the entire female genital system with its suspensory ligaments is easily palpated. The bladder, when empty, lies on the floor of the pelvis and is not easily palpated, but when full, it stretches forwards over the pubis and is more easily felt.

At the level of the fifth lumbar vertebra the external iliac vessels can be felt arising from the abdominal aorta: they can be followed with ease down and along the ilia to their division into femoral and deep femoral vessels above the inguinal rings. The position of the other branches of the aorta and of the medial iliac, lateral iliac and deep iliac lymph glands are also described.

The left kidney is very prominent, lying more or less medially in the sublumbar region. The descending colon passes it sagittally on its right. The left kidney is attached to the rumen by the renoruminal ligament and is also attached caudally by a long ligamentous band which runs caudo-ventrally across the rumen and terminates in the inguinal region. These ligaments serve to prevent the intestines from penetrating between the rumen, left kidney and left dorsal abdominal wall. The right kidney may be palpated in suitable subjects and lies forwards and to the right of the left kidney. The renal arteries and the cranial mesenteric artery may be palpable in favourable subjects. They arise at different levels from the aorta in the order of left renal, right renal and cranial mesenteric (from behind forwards).

The intestines are not individually palpable, as they lie together in the bursa supraomentalis. The end of the cæcum, however, often projects backwards as a firm balloon into the pelvic inlet on the right. The dorsal and ventral blind sacs of the rumen are easily palpable on the left. The right longitudinal ruminal groove and the

artery lying within it are usually easily found also. The author states that he has been able in many cases to penetrate as far as the transverse colon and thence to palpate the pancreas, etc., but he has not yet worked this out completely. Of practical interest is the tip that the pulling of the animal's head round to the right facilitates rectal exploration. Three figures and a long list of references accompany this paper.

J. T. E.

* * * * *

[**Two Practical Methods of Restraint for Cattle.*** Lagerlöf, N. *Svensk Vet.-tidskr.* 1932. Vol. 37, No. 1.]

This is a brief illustrated note on two practical zoötechnical points.

Cattle can be prevented from kicking if their tails are seized and pulled upwards in a vertical direction from the root. [The same holds good with horses—reader: note with reference to Magee's paper on Vaginal and Rectal Exploration in the *Veterinary Record* of February 20th, 1932.] This is noteworthy with regard to teat operations, etc., in cows. The second point concerns a pair of bulldogs (nostril grippers) arranged so that they are held in a closed state by a single rope passing through holes in the ends of the handles. Increased tension tightens their grip. This instrument (illustrated) is of Swedish manufacture.

J. T. E.

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[**Increase in Guanidine-like Substance in Acute Liver Injury and Eclampsia.** Minot, A. S., and Cutler, J. T. *Proc. Soc. Exp. Biol. and Med.* 1929. xxvi, pp. 607-611.]

The invitation recently extended to *Record* readers to forward for publication their experiences of the use of carbon tetrachloride as an anthelmintic, with particular reference to toxic sequelæ, renders topical a reference to the above investigation, which was one of a series of studies made under the direction of Dr. P. D. Lamson on the pharmacology and toxicology of carbon tetrachloride.

The outstanding pathological change produced by carbon tetrachloride is a severe central necrosis of the liver, and with so conspicuous an injury it is natural to associate, at least tentatively, the disturbed metabolism which is productive of an increase in the guanidine content of the blood during this intoxication. The increase in guanidine produced in the blood of experimental dogs was soon followed by a marked fall in blood sugar which often reached levels of extreme hypoglycæmia.

Reference is made to the highly protective action of calcium salts in preventing and treating these intoxications, which led the authors to investigate the probability that when similar liver injury has been caused in some way other than by the administration of carbon tetrachloride or chloroform, similar abnormalities may be looked for, and if present may also be relieved by calcium therapy.

Studies of an introductory nature were undertaken of the blood chemistry, with special reference to guanidine and blood sugar levels, in a few human clinical cases representing various types of liver disease and also in cases of eclampsia—a condition which the majority of observers believe is accompanied by pathological changes in the liver.

Although the number of cases studied was small, it is believed that the data obtained indicate that, in them, the same abnormalities in blood chemistry were present as were seen in dogs during the intoxication produced by carbon tetrachloride or chloroform; moreover, calcium medication furnished prompt relief.

W. B.

* * * * *

[**Deficiency Diseases.** Maignon, Professor. *Recueil de Médecine Vétérinaire.* Vol. cvii, No. 11.]

Up to the end of last century the notion was held that animals were nourished by certain food constituents—proteids, fat, hydrocarbons and mineral salts, the relative proportions only differing, and that if a piece of flesh and a handful of vegetables were examined, the same principles would be found in each: these were held to form a complete dietary when in suitable proportions. With the discovery of vitamins at the beginning of this century a new view was taken of the pathology of diseases having origin in the dietary, hitherto held to be due to toxic substances in the ration, and to the absence of vitamins from the food was assigned the cause of these maladies now named deficiency diseases. It was Lunin, in 1880, who made the first attack on the view that a complete dietary consisted of proteids, lipoids, glucides and minerals. He fed mice on milk constituents purified chemically and the animals died, and Lunin concluded that there was something indispensable for life in milk beside the nutritive substances.

In 1897, Dr. Eykmann studied in Batavia a disease very prevalent in some tropical lands —beriberi. He observed that those who paid heaviest tribute to the malady were people who were accustomed to eat the finest rice—the most completely decorticated. Experimenting with fowls, which he fed exclusively on decorticated rice, he found that he could produce the disease at will and he also discovered that if he added rice bran to the ration the malady could be prevented or cured. There was evidently something essential to life contained in the cuticle of the rice when the latter was used exclusively as food.

Beriberi manifests itself by digestive troubles, polyneuritis and muscular atrophy.

In 1911 Funck endeavoured to extract from rice cuticle this essential substance, which he named vitamin. Hopkins in 1912 fed young white rats on purified food consisting of casein, starch, saccharose, lard and salts and found that the animals ceased to grow: on substituting butter for the lard normal growth took place. Hopkins concluded that there were some indispensable substances in milk beside protein, fat, carbohydrate and salt and he named them accessory food factors.

McCollom and Davis, experimenting in America, found that white rats fed on purified casein, lactose, fatty matter and mineral salts grew normally when butter was used as fat in the ration, but that growth ceased when lard was substituted, and they concluded that the essential something in the milk was brought out with the butter. In other experiments rice or saccharose was substituted for lactose and the animals wasted and died as a result. Thus another indispensable factor contained in milk is associated with lactose.

Consequently, there are two accessory food factors in milk—one fat soluble A, and another water soluble B, associated with lactose. Avitaminosis or deficiency disease is the name applied to troubles which follow the absence of these factors from the ration.

Vitamin A occurs in cod-liver oil, in butter and in green vegetables, especially spinach; its absence from the food is marked by cessation of growth and by an affection of the eye—xerophthalmia—in which there is swelling of the eyelids, atrophy of the globe and ulceration of the cornea: the addition of butter to the ration effects a cure if the cornea is not already destroyed. Children fed on sterilised milk cease to grow and develop xerophthalmia due to absence of A.

The utilisation of the nutritive principles of food, then, depends on the presence of vitamins. Possibly two factors are present in A—one concerned with growth and the other opposing xerophthalmia.

There are two factors in water soluble B—one opposed to experimental avian polyneuritis and the other preventing body waste (utilisation of nutritives).

Vitamin B is found in vegetables, the cuticle of cereals in fungi and in yeast.

Antiscorbutic vitamin C occurs in fruits, fresh vegetables and fresh meat. Its absence from the ration gives rise to scurvy, a malady frequently found formerly affecting the crews of ships on long voyages. It manifests itself by hæmorrhages and osseous troubles. Bleedings take place into the gums, muscles, intestines, etc., and the bones are painful, congested, softened and fracture at the epiphyses. Scurvy, though now rare in the adult, is observed in children fed on sterilised milk. The disease has been produced in guinea-pigs by feeding them exclusively on grain and water. Scurvy finds its prevention and cure in adding orange or lemon juice or fresh vegetables to the dietary. Vitamin C is very fragile, its antiscorbutic power being lost by heating or even drying.

Animals obtain vitamins from vegetables; herbivora directly, carnivora indirectly. Milk and butter are richer in vitamins in summer, when cows are at grass, than in winter.

Vitamins result from the action of lower vegetables, soil microbes, yeasts, etc., and superior vegetables get their necessary supply by roots from the soil in which microbes have formed them. While the pig is susceptible to avitaminosis, the ruminant is resistant since microbes develop the required vitamins in the rumen contents. The vegetable origin of C is not absolutely assured; the rat and pigeon can probably develop this factor in their bodies—they are at any rate not affected by its absence from their dietary.

Factor D is the antirachitic vitamin. Rickets is a disease of the young in which there is hypertrophy of cartilage, excessive formation and irregular arrangement of cartilage cells, together with faulty calcification, the result being deformity of bone and swollen articulations. It was known long ago that the affection could be prevented and cured by the taking of cod-liver oil and exposure to sunlight. The condition was for long attributed to lack of lime in the diet; this was disproved by experiments which showed that lime deficiency resulted not in rickets but in osteomalacia, the required lime being withdrawn from the bones of the body, and that for calcification to take place a sufficient supply of phosphorus was needed as well as calcium. In 1921 experiments by Sherman and Pappenheimer proved that rickets could be produced in young rats at will by giving them a diet deficient in phosphorus and keeping the animals in the dark, while addition of 3-4 per cent. basic phosphate of potash prevented the occurrence of the disease and cured it when present, the animals meanwhile being exposed to sunlight. Exposure to the arc lamp and to ultra-violet rays is also preventive and curative of rickets. The well-known action of cod-liver oil in producing calcification of bone in rickets was thought to be due to its content in A: the author attributes this, however, to the presence of factor D associated with A in the cod-liver oil, for if the oil be heated for some time its power to prevent xerophthalmia is lost, while the antirachitic power is maintained.

The Anglo-American view that rickets results from deficiency of light, minerals and vitamins is opposed by French workers, who hold that, although this may be true of experimental rickets, it does not apply to the spontaneous form. Infants well supplied with food and light

may contract rickets and this from deficiency of the factor D, which is found abundantly only in cod-liver oil and is deficient if not absent in ordinary foods.

Though no deficiency of food or light may be found in infantile rickets, an intoxication is observed as a basis of the condition, its origin being infectious or alimentary—in the first case due to syphilis or tubercle and in the second to auto-intoxication created by digestive troubles resulting from artificial feeding on cow's milk and fat. In 1923 the author showed that the French and Anglo-American views were capable of being reconciled if one admitted that the factor D abundant in the liver of the cod and some animals, is an internal secretion of the organ, and thus intoxications, infectious or alimentary, altering the liver, hinder the production of factor D and lead to rickets. Liver lesions are not rare in rachitic children. Phosphorus and D are necessary for calcification; and deficiency of the former is compensated for by excess of D, which ensures better utilisation of the phosphorus present.

Flour, dried milk and some vegetable oils subjected to ultra-violet rays become antirachitic and when ergosterol is activated by the same rays it becomes a very powerful agent of calcification and is used extensively for therapeutic purposes. Ergosterol made in the animal and human liver and deposited in the tissues is converted into the antirachitic vitamin when the body is irradiated.

Vitamin E is that of reproduction and is found in wheat oil and germ of barley; its absence in the male is followed by sterility and in the female by abortion.

Deficiency disease is not limited to avitaminosis but includes that attributable to want of proteids, minerals and perhaps fats. Proteid deficiency may be quantitive, as in starvation, or qualitative when certain amino acids (the form in which the blood carries protein to the tissues) are wanting. Tryptophane, histidin and lysin are among these; they have to do with nutritive equilibrium and growth.

Of mineral deficiencies the most typical is that of phosphorus which, in the growing animal, ends in experimental rickets (the author recalls here that spontaneous rickets has another cause). What matters is not the absolute quantity of phosphorus in the ration but the relation of P to Ca in it—insufficient phosphorus or excess of calcium end in rickets.

Experimental rickets may be said to arise from something deficient in the food or to excess of calcium. Calcium deficiency induces decalcification and osteomalacia. Earth eating and wall licking were long ago attributed to mineral deficiency and the effect of phosphate of lime known as a cure for the conditions. Dr. Theiler showed that lamziekte, a disease of South African cattle, sometimes responsible for a mortality of 40 per cent. of a herd, was botulism and due to the patients eating the bones of animals that had died on the veldt, the bone eating being the result of phosphorus deficiency in the soil. The disappearance of the malady was attained by dressing the pastures with phosphatic material.

Among diseases arising from complex deficiencies, pellagra (an infection of the skin observed among people in Lombardy), wool eating in sheep, and feather plucking in birds are probably attributable to lack of mineral salts, proteid or vitamins (particularly B and D) in the ration.

With regard to the part played by fat, Burr found that rats deprived of fat developed necrosis of the tail and degeneration of the kidneys and that the addition of 2 per cent. fat to the ration acted curatively. Fat, then, is not merely a carrier of energy but has influence on metabolism—on the utilisation of nutritive principles and at the same time it renders less toxic the waste products evolved in the transformations of proteids.

W. R. D.

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[The Toxicity of Irradiated Ergosterol. Schieblich. *D.T.W.* No. 49. December 5th, 1931. 750.]

No doubt exists as to the specific preventive and curative action of irradiated ergosterol preparations in rickets, osteomalacia and like diseases, but, contrary to popular belief, these preparations when given in large doses are not completely harmless. Pfannenstiel was the first to report lesions in adult rabbits which were considered due to high dosage with "Vigantol." This action has been confirmed by other investigators who found calcareous deposits in the walls of arteries, intestines, heart muscle, lungs and kidneys of animals receiving large doses of irradiated ergosterol. Young animals are less susceptible to overdosing than adults, and dogs, mice and rabbits are fairly sensitive, but cats most of all. Guinea-pigs are comparatively resistant.

Damage was also caused to the fœtus in pregnant animals and sometimes abortion was produced. The clinical appearances of hypervitaminosis D in dogs are apathy, loss of power, thirst, inappetence and vomiting, and death followed from circulatory disturbances. Similar symptoms have been observed in children through overdosage with "Vigantol." Some authors believe that the toxic action of irradiated ergosterol preparations is not due to hypervitaminosis, but results from a poisonous principle which is generated during irradiation. If there is a parallel between the antirachitic and toxic actions of these substances, it is clear that

the most active antirachitic preparations are also the most poisonous. It has been shown that the antirachitic principle can be destroyed by reduction or heating to 200° C., while the toxic action remained almost unaltered. On the other hand, it has still to be proved whether the antirachitic factor is itself free from toxicity.

W. L. S.

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[**Vitamin Content of Foodstuffs**. Scheunert. *D.T.W.* No. 49. December 5th, 1931. 749.]

The author refers to the importance of good nutrition in successful stock-rearing, and states that in order to build resistance against infections and parasitic diseases it is necessary to know the properties of vitamins and the foods that contain them. All fresh grasses, legumes, hay, lucerne and clover are rich in vitamin A (antixerophthalmic). Dried sugar beet tops and carrots are also rich sources of this vitamin. Maize, linseed, turnips and potatoes contain only small amounts. Cod-liver oil is a very rich source. Vitamin B (antineuritic and antipellagric) is never so abundant in foodstuffs, but occurs in the above mentioned. Bran alone supplies this vitamin in great quantity and potatoes are also a good source. White flour, polished rice, dry meat and brewer's grains are practically devoid of vitamin B.

Fresh green foodstuffs are likewise rich containers of vitamin C (antiscorbutic). Hay and artificially dried foodstuffs must be regarded as free from this vitamin. Potatoes, both raw and cooked, are a good source. Contrary to common belief, carrots are a poor source of vitamin C, and its content in turnips is extremely variable. The danger of animals receiving insufficient of this vitamin is non-existent.

The occurrence of the antirachitic vitamin D in fresh grasses is extraordinarily variable. It is found regularly in hay, although it appears to be missing in certain types, due probably to climatic causes. Milk contains no considerable quantity of vitamin D, and the other foodstuffs are lacking in it, and to obviate rickets cod-liver oil or " Vigantol " should be administered.

W. L. S.

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[**The Feeding of Iodine to Poultry**. Schmidt. *D.T.W.* No. 49. December 5th, 1931. 754.]

The following are the author's conclusions regarding the use of iodine in poultry. The effect of iodine on body growth is still insufficiently known, but in the human subject and in animals the need for iodine varies with the nature of the soil, climate and season. Hens appear relatively insusceptible to iodine poisoning, so it is assumed that iodine is quickly and uniformly expelled from the body. The feeding of large doses of compounds of iodine had no effect on appetite or body weight, but ovarian efficiency in laying hens was reduced, eggs became smaller and finally with larger doses laying ceased. No permanent damage to the hens resulted. The eggs showed a high iodine content which persisted long after the administration of this substance was stopped. In general, the author is unable to confirm the so-called advantages of feeding iodine (increase of appetite and body weight, increased egg weight, better production, shortening the period of moult, etc.); on the contrary, his experience has shown it to possess certain disadvantages. It is still undecided whether or not iodine therapy has any preventive or curative value in diseases of the oviduct, B.W.D. or coccidiosis.

W. L. S.

Review

THE REGISTER OF VETERINARY SURGEONS

The Register for 1932 is now published, and copies can be obtained from the offices of the College, 10, Red Lion Square, London, W.C.1, price 5s. 5d. post free, or bound in boards, 7s. 11d. post free. It is, however, sent *gratis* to all Members on payment of the statutory Annual Fee.

There is evidence throughout that, as usual, the greatest care has been exercised in revising this publication and in bringing it up to date. The number of Members on the Register has fallen by 40, as the following figures show:—

		Members.	"Existing Practitioners."
Number on Register, 1931		3,433	41
Less number of deaths recorded	79		
Less number removed for other reasons ...	16	95	5
		3,338	
Add new Graduates ...		55	
Number on Register, 1932		3,393	36

The number of registered veterinary surgeons has gradually been decreasing since 1926, when the total number of Members was 3,507, and of registered "Existing Practitioners," 69. In 1922 the numbers were respectively 3,276 and 113, and in 1912, 3,417 and 226, so that the profession is now fewer in numbers by 214 than it was 20 years ago.

The increase observed during the past few years in the number of students entering the Colleges indicates that a gradual increase in the

number of qualified practitioners may now be anticipated.

The names of the following Members are shown without addresses, and these names will be removed from the Register unless the Registrar is informed of the correct addresses of these Members:—

Name.	Former Address.
Bell, R. C.	Queensland
Brett, M. J.	Captain late R.A.V.C.
Cooper, W. J.	Reigate.
Hulford, C. F.	Hanwell, W.
Mackay, M.	New Cross, S.E.14.
Matthews, R. C.	Ditchling.
Meeke, A. V.	Wallasey.
Miller, R.	Poulton-le-Fylde.
Moody, W. J.	Buckfastleigh.
O'Connell, M. G. ...	Fareham.
O'Leary, A. J.	New Jersey, U.S.A.
Paton, J. C.	Epsom.
Sexton, M. A.	Bray.
Smith, W. R.	Reading.
Spooner-Hart, R. ...	New South Wales.
Stevenson, W.	Rangoon.
Whigham, W. B. ...	Frinton.

The Geographical Lists at the end of the Register now show merely the name of the Member and the town in which he practises; by this compression, several pages of printed matter have been saved. The Annual Report has been omitted, but as the Report has already been circulated to every Member, there appears to be no necessity for it to be reprinted in the Register, when it is nearly a year out of date.

The lists of veterinary officers in official appointments occupy 20 pages—a striking contrast to the two or three pages which were sufficient for this purpose 20 years ago.

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

	Price Net. s.	d.	*Post Free.* s.	d.
House of Commons Reports and Papers:—				
20. Development Fund. Abstract Account of the receipts into, and issues out of, the Development Fund in the year ended March 31st, 1931; together with the Report of the Comptroller and Auditor General thereon	0	2	0	2½
Medical Research Council:—				
Special Report Series:—				
164. The Value of Tuberculin Tests in Man, with special reference to the Intracutaneous Test. December, 1931. (45-5-64-0.)	2	0	2	2
[4008.] Medical Research Council. Report for the year 1930-31	2	6	2	9

Report

DEPARTMENT OF AGRICULTURE, NEW ZEALAND, 1930-1931

The Reports of the Department of Agriculture are "presented to both Houses of the General Assembly by Command of His Excellency" and those portions provided by the officer in charge of the Wallaceville Veterinary Laboratory deal with current work undertaken by the veterinary laboratories in New Zealand. The report of the work is condensed and in the limited space it is impossible to expect that justice could be done to the many problems investigated. Therefore brevity materially limits the scientific value of the report and when conclusions are stated it is impossible to estimate their value or justification. A report of this nature should be regarded as a political rather than a scientific document.

The diseases of cattle with which the New Zealand workers are concerned are sterility, contagious abortion, mastitis, milk fever, parturient eclampsia, Johne's disease, and blackleg. The three first-mentioned diseases would appear to be the most serious. The suggestion is made that by employing laboratory diagnosis contagious abortion and mastitis are amenable to control. A streptococcal infection of the reproductive organs of the bull is considered to lead to sterility in some herds. Administration of CaO in the drinking water is said to appear to prevent milk fever. Details of this very debatable point would have been interesting. Hope is expressed for the future use of johnin as a diagnostic agent.

The major portion of the reports is given to sheep diseases. Investigations on the transmissibility of caseous lymphadenitis have been and are being made. A disease named "circling disease" is attributed to a bacterial infection of the brain. Arthritis in lambs has been found to be caused by the bacillus of swine erysipelas. Diseases of unsettled ætiology include pulpy kidney, epizoötic jaundice, deformity in lambs, diseases considered to be due to dietary deficiencies, and ante-partum paralysis. The aid of biochemistry is to be sought in attempting to elucidate these various conditions.

Tabular statements are given of what are regarded as normal figures for biochemical and histological examinations of sheep and cattle blood and of biochemical examinations of sheep and cattle urine.

Poultry diseases receive mention and it would seem that a form of coccidiosis has appeared in pullets of four to eight months old. Whether this is due to the same species of coccidium which affects young chicks is not considered and the report naïvely states "What is required is that some power be given Poultry Instructors to stop the sale of affected birds until such time as the parent flocks have been cleared up. This presents considerable difficulties."

A. D. McEwen.

N.V.M.A. Divisional Report

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION

ANNUAL MEETING AND DINNER AT READING

(*Continued from page* 283.)

THE ANNUAL DINNER

The Annual Dinner of the Association was held in the evening.

The President, in proposing the loyal toast, said: "It is a great pleasure to give the toast of his gracious Majesty, the King, coupling with it the Prince of Wales, who, as you all know, is our patron, and who is one of the very best sports in the whole world. He is going to take a great interest in our boxing competitions in February and is going to give a cup."

Major Taylor then announced letters of apology for absence from the Town Clerk of Reading (Mr. C. S. Johnson), Colonel H. S. Mosley, Dr. R. Stenhouse Williams (National Institute for Research in Dairying), and Mr. A. G. Sims (Secretary of the Reading Rotary Club).

"THE ROYAL COLLEGE"

Mr. James Mackintosh, of the National Institute for Research in Dairying, in proposing "The Royal College," said: I suppose, like myself, many of you are wondering why I should have been given the honour of proposing this toast. I know that there are quite a number of reasons why a man should be asked to propose a toast. One quality which seems to help some is that they can tell a good story; I cannot, and I am quite sure any I attempted to tell would be chestnuts to you. It might also be that I knew something about the Royal College. I think I know a little bit more now than I did a few days ago, but when Mr. Male asked me to undertake this responsibility I am afraid I 'put my foot in it' at once by using words which indicated that I was not clear in my mind as to what was the difference between the Royal Veterinary College and the Royal College of Veterinary Surgeons. He took pity on my ignorance: for years now he has been taking pity on the ignorance of agriculturists, and giving them information in all sorts of ways. So he sent me a copy of the register. That was very kind of him, but as I looked through certain pages, and noted things here and there, I felt also it might be rather rash. I came across what was described as a calendar: it seemed mainly to be a gruesome record of deaths. That may be of importance; it may be interesting to you to know that someone of the name of Barlow died on this date, January 29th, 1856. I turned over the pages and came to November 9th, 1890, when Violet died. I could not help thinking, who on earth was Violet? Was she a veterinary surgeon or a favourite mare? (Laughter.) Was she even a cow? There was nothing to indicate who on earth Violet was. I am wondering how many of you present know who he or she was. I got on a bit further and came to the Veterinary Surgeons Act of 1881. That was interesting in parts, to enable persons to distinguish between qualified and unqualified practitioners. I can even to-day think that the passing of the Act must have been welcomed by veterinary surgeons of that day. In the first charter of 1884 I find that the said College, and this time I do mean the Veterinary College, was instituted to improve the veterinary art, which had been heretofore practised generally by ignorant and incompetent persons, which had been uniformly and universally complained of. I was interested to find that although you had difficulties of that sort you had overcome them, and that one of your greatest friends in helping you to overcome these difficulties had been Queen Victoria. I find that no less than the charter of 1844, and the subsequent charters of 1876, 1879, 1883 and 1892, were all under the auspices of Queen Victoria, so that whatever we may think of Queen Victoria in other respects, so far as the granting of charters to the Royal College of Veterinary Surgeons is concerned, she was undoubtedly a great friend. King George was also instrumental in granting the two further charters of 1914 and 1923.

There are two ways of looking upon these charters. I prefer to take the point of view that the Royal College was instituted and got its charter to help the agricultural industry of the country, and that the subsequent charters were granted to show that it was meeting changed conditions in the very best possible way. That, to me, was a sign of healthy progress, and I feel certain that as time goes on the Royal College will not fail to be ready to meet new situations as those new situations arise, and not be bound by what may have been the habit of the past. I found also that you had got a professional course of instruction of four years' duration, and that from 1932 onwards it is to be a five years' course. That also I take (whatever may be the feelings of new students) to be a sign of progress and a desire to give even better and fuller training than has been at the disposal of students in the past. That again is all to the good. I could not help noticing also that they were expected to know something of the anatomy of the domestic animals, and I saw a list at the bottom of the page—horse, dog, ox, sheep, pig, cat and fowl. I have always admired or tried to admire courage. May I, as one mainly interested in the cow, hope that the cow will vie with the horse in the amount of attention given to its anatomy? My admiration of courage was well-nigh exhausted when I thought of the veterinary surgeon having to deal with the ailments and troubles of no less than seven types of domestic animals, not one of which was competent to tell him where the pain was or how long it had been there. There might be an exception to that. I do not know whether parrots come under the heading of fowls, but I can conceive of a parrot, owned by an elderly lady, trained in its early youth by a sailor, being quite competent to express its feelings in language a veterinary surgeon would understand. (Laughter.) I hope an adventure with such a parrot may come at some time to relieve the tedium and worry which may be aroused by other cases. I have tried to show you that I have profited by my study of the Register and that I have a deeper knowledge of the Royal College than I had before. Arising out of that I can, with the utmost sincerity, give praise for your work in the past, and hope for the success of your work in the future. (Cheers.)

Mr. G. P. Male, the President of the Royal College of Veterinary Surgeons, in response, said: It falls to my lot this evening to respond to the toast of the Royal College of Veterinary Surgeons, which has been so humorously and ably proposed by Mr. James Mackintosh. I am sure I must thank you, on behalf of the Royal College, for the very loyal way in which you received the toast. This is the first time, I believe, that we have had the pleasure of hearing Mr. Mackintosh at one of our dinners. I have met him on many

occasions and on many Committees. We have chased the wily warble fly on many afternoons at the Leathersellers' Company headquarters, and we have discussed the problems of tuberculosis, the pasteurising of milk, the Special Milk Designations Order, and tried to put all these things to right. He is absolutely ubiquitous and undefeated. They have tried to defeat him on the question of rations for cows. The readers of the *Farmer and Stockbreeder*, and other papers, have tried to trip him up, but they have never defeated him yet, and I do not think they will.

As we have the Registrar of the Royal College here, I am sure he was most interested in the comments that have been made, and will bear them in mind. He will probably tell you later who Violet was; whether she was a lady or not. I do not think she could be a lady, because a lady was not allowed in the profession in those days.

I am in an awkward position to-night, because I have my Treasurer on my immediate left, and the Registrar of the Royal College, Dr. Bullock, next to him. I have to be very careful what I say, but I expect you think that I ought to render an account of my stewardship; certainly I expect that I shall be taken to task very severely if I do not say something of what has been done. As Mr. Mackintosh has said, a five years' course is coming into operation. That was found to be necessary on account of the vast increase in the subjects that have to be studied now. All these various animals, including the cow, will now want special consideration and they will have it. It was found quite impossible for students to get from a four years' course the amount of knowledge that is required to-day. In many cases it took five years to complete the course. So that instead of rushing it on, it was thought advisable to alter the curriculum, and have it for five years. Whether the remuneration will be adequate to all this increased knowledge I do not know. In his speech this afternoon our President rather suggested, I think, that he did not think it would. But we hope that the profession will go on and prosper. Things are not too good at present. Agriculture is very depressed, but we live in hopes, and we keep a stout heart, as our President said.

There is a question which has been rather debated in some quarters, that is the question of Veterinary Advisory Officers. As you all know, various officers have been appointed, and they have been working under great disabilities. Their duties have been such that if carried out would bring them into collision with members of their own profession. Owing to the representations of the National Association and of the Royal College, those duties have been clarified, and it is the wish of the Ministry of Agriculture, the expressed wish, which will be transmitted to these Advisory Officers, that they should carry out their duties observing very strictly the etiquette of the profession. These special duties are to investigate obscure cases of disease. It is now up to them to show that their work is one that is of benefit to agriculture and to the veterinary profession, but it is incumbent upon them to carry out those duties without infringing any rules of professional etiquette. We look to them and expect them to carry out their duties in that way.

You will not expect a long speech from me, but I hope you will hear the Registrar, Dr. Bullock, and the President of the National, Colonel Simpson. It is the first time, I think, in the history of this Association, perhaps of any local association, that we have had the President, Treasurer and Registrar of the Royal College sitting at one table, and also the President of the National Association. I thank you very much on behalf of the Royal College of Veterinary Surgeons for the very kind way in which you have received this toast. (Cheers.)

"THE NATIONAL ASSOCIATION"

Colonel Walker, who proposed the above toast, said: The President of the Royal College of Veterinary Surgeons has just referred to the fact that to-night we have the President of the National Association with us, and I feel it a great honour that I, a junior member of this Association, should have been called upon to propose prosperity to that Association, and the health of its distinguished President. There are a number of past Presidents of the National Association here, and I just asked one of them what I should say: I thought I might get a tip from an eloquent speaker, but he said he thought the less I said the better. (Laughter.) That is probably because he has a very poor opinion of my powers of doing that Association justice. I probably have very poor powers, because I have to confess that I have not been seen at or been able to attend many meetings of the Association, having spent most of my professional career abroad. But I did have the opportunity of going to Newcastle-on-Tyne, where I was foolish enough to read a paper on 'Veterinary Education.' There I tried to obtain the opinion of a large body of the profession as to whether a five years' or a four years' course was desirable from their point of view. We did not get a very decided opinion. I look back on that visit as a very memorable occasion, because the present President and I stayed at the same hostelry. It was there that I met him, and it is a very pleasant memory. He has had a career in this profession which is, I am sure, very distinguished. Perhaps I am not the best one to tell you about it, because I do not know all his past history. What I do know about him is to his credit: that I can say without any fear of contradiction. At this moment I should like to congratulate him, because I think he has had some share in responsibility for the improvement in the *Veterinary Record* this year, and I think you will all agree there is a distinct improvement in that periodical, which is the periodical of the Association.

Colonel Simpson stepped into rather an unfortunate breach, owing to the illness of another President, and so is having perhaps a longer period than most Presidents. Therein again, I think the Association has everything to gain. Colonel Simpson, I understand, has been Secretary, Treasurer and President of this Association. He was evidently a good Treasurer, because he is still here. He has also been elected Treasurer of the Royal College. That shows that the training he received in this Association has stood him in good stead, and, as I said before, his character has remained as good as ever.

Colonel Simpson, I am sure, will make a success of the next meeting at Folkestone. (Cheers.) I should not like to draw any invidious comparisons, but I should like to say, without offence to past Presidents, that the Association has now got a man who has a very charming personality, and incidentally I might say that I have heard of his personal charm from people who are very much entitled to judge. I know that when Colonel Simpson honours a cat show by inspecting their cats, the owners of the cats have never found a more popular and charming inspector.

We all know what Colonel Simpson has done and is doing for the Victoria Benevolent Association. That, I think you will agree, is a work

that will always remain in the memory of the profession. We are to be congratulated on having Colonel Simpson in the office he holds and I do not know anyone who could do it better or as well. I have seen him also on the stage, and anybody who has seen Colonel Simpson on the stage will bear me out when I say that his personality there shows all the charm he has, and how lucky the National Association is to have a President like him. (Cheers.)

Colonel Simpson, in reply, said: It is a little difficult for someone even acquainted with all the ramifications of the different associations of our profession to know more or less what the one is of which we are particularly speaking. Our friend, Mr. Mackintosh, said he had a little difficulty in differentiating between the Royal College of Veterinary Surgeons and the Royal Veterinary College. I think by the end of this dinner he will be placed in a worse state, for he will wonder what connection the Royal College has with the National Association, what connection the National Association has with the Royal Counties, and so forth. And if he broods on this very much I am afraid he will get into a serious state. He may, perhaps, in thinking it over, liken it to the Athanasian Creed, in which there are three Presidents. Yet there are not three Presidents, but only one President, and it goes on on these lines.

I thank Colonel Walker very much indeed for the kind way in which he proposed, shall I say, more my health than the toast of the National Veterinary Medical Association. I, of course, am only a little member, being placed in the position I am for the moment. In responding, I have to think more of the Association, of which I am very proud to hold the position of President. The doings of the National Veterinary Medical Association are, of course, things apart from the doings of the Royal College of Veterinary Surgeons, and yet there cannot but be a sort of connecting link between the two. It is one of the most pleasing things to me to know that the Royal College and the National Association are working now far more harmoniously together, and seeking each other's aid in matters which are vital to the profession itself, than has ever before been the case in the history of the two bodies. There is no question of the National wanting to usurp the privileges and powers of the Royal College; even if they wished it they have not the power to do so. But there is not that wish. I am sure it is the desire of the National Association to work harmoniously and hand in hand with the Royal College. There are many things, such as protests to public bodies, which can be backed by both societies, and by being backed by two strong bodies such as these two, a far greater weight is brought to bear on the arguments, and it produces a better effect on public bodies and the public generally. The position of the President of the National is no sinecure. I hope everyone in this room will perhaps occupy the Presidential chair at some time. You will learn a lot; you will learn a great deal of human nature. You will learn that there are still many men in this world who do nothing but sit back and scoff and jeer and cast reflections on the doings of the National Association. Then you ask them what they have done towards helping things, and you find they have done nothing. They grumble and grouse, and say that everything is done wrongly, yet they never come forward to do anything themselves. I do not think there is such a man in this room, because every member of the Royal Counties Association is a true patriot, and will work at anything for the good of the National Association. But I ask everyone of you, if you do come across one of these other men, to put it straight from the shoulder, 'What have you done?' Mainly, the answer is 'Nothing.' You ask them, 'Why don't you do something?' and they reply, 'Oh, I haven't the time.' We have no use for men like that. (Hear, hear.) Of course the National Association is now pretty well organised, and with its local Divisions (especially this one with the great strength which it possesses) it is, I am sure, a body which will go far in public opinion. I can only thank Colonel Walker for his kind references to the Association and myself. His flattering remarks were entirely uncalled for, and if I had been in the chair at one of the meetings of the National Association, I should have called him to order and told him to keep to the point. (Laughter and cheers.)

"THE ROYAL COUNTIES ASSOCIATION"

Professor Hobday proposed the "Royal Counties Association." He remarked: The toast that is so kindly given to me is one to our noble selves, and I am proud of it. I wish to thank you again very much for having made it certain that I can always say I am a member of the Royal Counties Association. I am proud, too, because my election has taken place in Reading, for Reading has been right from the very start the centre of veterinary progress in this part of England. It was in Reading that this Society first started, and it was started, too, by a Reading veterinary surgeon. Unfortunately none of those founders is alive to-day. The Society is still just as live a Society as it was in the past, when it was originally started. I understand that when it commenced they had a matter of 35 joining members, which shows it started in a very vigorous manner. But at the present time we have no less than 85 members. Those of us in the neighbouring Societies, that is the Central and the other Societies which adjoin the Royal Counties, know well that if ever we want any help from any unit, any effort to promote anything which is good for the profession, the Royal Counties is one of the first to be asked, and it is always ready to give its help.

The objects of the Society in the beginning were put down—to elevate the profession, to promote a good understanding amongst its members, to read and discuss papers, etc. That, as you know, has been very thoroughly carried out by every President, by every Committee, through all the years that have passed since 1883 when the Society was founded, now nearly fifty years ago. Of the things which the Society has done on its own, first of all I think it is worth while drawing attention to the lucky position of the Treasurer of the Society. At its first meeting the receipts were *nil*, and the expenditure was *nil*, leaving a balance of *nil*. To-day the Treasurer has shown an equally good position, only that his balance is well over the line even in these hard days. We have a matter of over £130 in hand. Then in 1887 this Society did something which would be a good example to other Societies. When Sir Henry Simpson was in the chair, it gave a stained-glass window for the Council Chamber of the Royal College of Veterinary Surgeons, a window representing a lecturer in anatomy and in chemistry lecturing to his respective students. History again repeats itself in regard to the struggle which we are having now against unqualified practitioners. In reading up the history of the Association, I find that Mr. Walker, of Oxford, brought forward a paper for discussion, in which the title ranged round the illegality of unqualified people who called themselves veterinary surgeons.

To-day our Society has made a most excellent start towards the presidential year. It is not only an excellent start in having no less than five new members, but to my mind an excellent start in the ability which is quite evident in your President, who has to respond to this toast, and whose name I ask you to couple with it. (Cheers.) It is customary sometimes for the proposer of a toast to say something of the character of the man who is going to respond. I have known Major Taylor for 36 years. We have been intimately connected on numerous occasions for three or four years at a time, and I am sure you will judge from that that I dare not say very much about him, because he has got to reply, and he might equally like to give me away. One thing I will say, however: that all of us know that the ship of state of the Royal Counties Association is in safe hands, and that it will be piloted through this present year in a manner which will be entirely satisfactory to the society and to the members. (Cheers.)

The President, in the course of his response, thanked Professor Hobday for the way in which he had proposed the toast, and for the very delightful support he had been given in that proposition.

"THE VISITORS"

The submission of this toast was in the capable hands of Professor Wooldridge, who, in the course of his remarks, said that the Association had tried to make the visitors happy amongst them, to extend to them the hand of good fellowship, and they hoped, at any, rate, that they had enjoyed their evening. With them that night as guests were some very eminent gentlemen, who were very heartily welcomed. They had heard of Mr. Mackintosh, and he did not need any further assurance from them that they were more than delighted to have him with them. Then there was Professor Hobday, who until that day could have been classified as a visitor. He did not know that he was right in including him then, since he was a member of the Association. Mr. Frank Poulton, as President of the Reading Rotary Club, knew quite well what the duties of a host were, and he hoped he would feel they had not been too backward in offering him their hospitality. They had with them too, Mr. Craft, a brother of one of their highly respected members. They had with them Dr. Minett, and it was not the first time that Dr. Minett, Director of the Research Institute, had graced the Society with his presence, and they hoped it would not be the last. In addition, they welcomed Dr. Fred Bullock, Registrar of the Royal College of Veterinary Surgeons. In the course of various and multiple duties, Dr. Bullock was responsible, with the assistance of a committee, for the production of the Register to which Mr. Mackintosh had referred, and he had no doubt that he would enilghten Mr. Mackintosh as to the identity of Violet. They all knew who Violet was, but none could give her identity away unless the Registrar gave them permission. (Laughter.) He thought there was a rather serious omission (he stood to be corrected in this regard)—he did not think there was a reference there to Queen Victoria. She, as Mr. Mackintosh had pointed out, was one of the greatest benefactors of their profession, inasmuch as she granted those various charters. If the names in the list were to be an indication of thanks and gratitude to those who had gone before them and assisted them, he suggested that Queen Victoria's name should be added to that list.

Dr. Bullock, in reply, expressed his gratitude for the opportunity of being able to speak to that toast, because he felt personally that it was a very great honour to be invited to meet veterinary surgeons, members of the College of which he was Registrar, in their own town, and to see them otherwise than as members of his governing body. He spoke as the humble representative of their guests, and in their name wished to thank them for the cordial way in which they received that toast, and for the very handsome manner in which they had regaled them. One thing he wanted to say about the Royal Counties Association, since he had the opportunity, was that it was quite properly named, for it was the birthplace of many Royal personages. They could see how it grew Presidents—there were Presidents all about them. They had only to join the Royal Counties Association, and their way up the carpeted stair to the Presidential chair was assured. (Laughter.) Indeed, he saw so many members of the Council of the Royal College around him that he was quite sure that all one had to do shortly to become a member of the Council was to join the Royal Counties Association.

An Association was one of the most important, if not the most important, means of advancing veterinary science. Everyone knew that whatever schools might do, their work finished as soon as the student obtained his diploma. Since everyone also knew that when the student left college and came to him as his assistant, he was practically useless, it was perfectly clear that his education must be got after he left college, and the best part of his education no doubt always had been, was now, and always would be, gained from the meetings with his brother practitioners—meetings of that kind. Local associations had done more to advance veterinary science and had been a far greater impetus to the veterinary profession in the past 100 years.

He was particularly interested to hear that they had made two Staffordshire men honorary associates of their Association. That reminded him of the great debt the veterinary profession was owed by Staffordshire. There was a time, 200 years ago, when a man from Staffordshire was on his way to London. Near Dunstable he found one of his horses had gone blind, so he called on the local practitioner at his forge and farriery shop, and asked him to do something for the horse. The farrier rubbed some flint, burnt it in his forge, and blew the powder into the horse's eye. History did not tell them whether the horse was cured, but the effect was that tears ran out of the eye of the horse and mixed with the flint. When he caught sight of them the potter, for such he was, said "Eureka, that's the very thing I wanted." He had got the secret of calcium flint. He introduced this new ingredient into his work, and began the immense career of the Staffordshire potteries. He was the forerunner of Wedgwood, and the prosperity of the northern part of the county of Staffordshire was begun and went on increasing. Therefore the county of Staffordshire ought to be grateful to veterinary science. But Staffordshire had amply repaid it. The county was responsible for that meeting, for it was a Staffordshire man who first of all proposed the establishment of local veterinary associations. More than that, he was the first man to call a meeting of veterinary surgeons to consider the obtaining of the charter of 1844: his was the first name on the deputation to Queen Victoria asking for the charter: he was the first man to give a donation out of his own money to begin a fund which established the Royal College of Veterinary

surgeons' house at 10, Red Lion Square. And at the other end of the scale they got two Staffordshire men on their Society, and a Staffordshire man as their Registrar. (Hear, hear.)

With regard to the questions Mr. Mackintosh asked, the list of deaths in the Register was a list of the dates of the deaths of great veterinary surgeons, men who by their life's devotion had helped to advance, all over the world, veterinary science. It was a fact that those names in the Register, although they meant nothing to the outsider, meant a great deal to them. That was their sacred niche, where they placed the memory of those who had helped to bring the veterinary profession up to its present state of prosperity and advancement. He hoped personally that no-one would ever rob them, by questions of economy, from possession of that sacred niche, where they placed in sacred memory the names of those who had helped to make the profession what it is. He did not think it would be wrong of him to tell them who Violet was. John Violet's father was the first man that that great Scotsman, William Dick, ever deigned to consider worthy of being a teacher in his own school. He was the first veterinary surgeon given a chair, the chair of materia medica, and the veterinary profession was greatly the poorer by his death. Those stories showed the meeting the deep interest he (the speaker) took in the profession from its beginnings. Having been for 25 years their Registrar, he now was practically the father of half the profession, for of the 3,400 names on the Register, 1,600 held diplomas bearing his signature. If he was Registrar for another 25 years, there would be no-one of whom he was not the father. (Cheers.)

Dr. Minett also replied, observing that there was very little that he could say in amplification of Dr. Bullock's remarks, beyond thanking them very much for their hospitality. He would like to say, however, that he had very kindly feelings towards the Royal Counties Association, for several reasons. One was the fact that he remembered that on their committee of management at the Institute they had two members of the Society, namely, Mr. Male and Captain Sidney Villar. Strange as it might sound, they had not had for very long on the management committee of the Institute, two members who were practitioners of the veterinary profession, but he could assure them that on many occasions it had proved extremely helpful to him to be supported in putting the veterinary point of view before the members of the committee who were not members of the profession. (Hear, hear.) Then he remembered that during last session their Secretary, Mr. Bell, very kindly honoured him by asking him to speak to the Society, which he did, with regard to the research work they were trying to do at the Institute in Camden Town. He did think it was of the utmost value for research workers to go out, when they could, to those various societies and speak of the work they were trying to do, and to gain help and encouragement from the practising members. Again, he remembered that in the past they had had very valuable assistance from a number of practitioners who belonged to that Society. Mr. Male—if he might mention him again—Mr. Collet and Mr. Hewer had all given him the very greatest personal assistance in helping them on with their research work. Apart from that, of course on that evening he had very tender feelings towards the Society for the splendid hospitality which they, as visitors, had enjoyed at their hands, and he most heartily associated himself with all that Dr. Bullock had said in thanking them very sincerely for that hospitality.

ARMY VETERINARY SERVICE

Movements of Officers

Major J. Southall arrived home from India on February 13th; he is at present on leave ex. India until April 12th, inclusive, and has been posted to the Northern Command for duty, with effect from April 13th.

Lieutenant A. A. Kidd sailed for India on February 23rd, for a full tour of duty abroad.

Major T. Hodgins sailed for Malta on March 4th, for a full tour of duty abroad.

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R.A.V.C. POINT-TO-POINT CHALLENGE CUP

The Hambledon Hunt have again kindly invited the R.A.V.C. Point-to-Point Association to run the race in connection with their Point-to-Point Steeplechase at Liss (about four miles from Bordon), on April 16th, 1932.

The course is not less than three miles over fair hunting country. Arrangements will be made for stabling, forage and accommodation for grooms at Aldershot or Bordon on application to Hon. Secretary at the time of entry.

As usual, there will be a Corps tea tent on the course for the use of officers and their friends. Tickets (priced 2s. 6d. each) can be obtained from the Hon. Secretary or by R.A.V.C. officers on the course.

Officers whose horses are normally stabled outside a radius of thirty miles of the venue, and are starting in the race, will be entitled to a sum (up to £4 a horse) equal to the amount of railway fare incurred in sending a horse to and from the meeting.

Conditions of the Race

For horses the property of, or Government chargers, or Troops horses hired on and since March 1st, 1932, by officers of the R.A.V.C. (Regular or Territorial), on the active or retired list, certified by a M.H. as having been regularly and fairly hunted during the season 1931-32, with a recognised Pack of Hounds or Military Drag. (In the case of a Military Drag to be certified by the C.O. of the Unit concerned.)

No horse is qualified to run which has ever won a race of any description (Point-to-Point, *bona-fide* Hunt and Military Races excepted). Retired temporary officers of the Corps may be permitted to enter as honorary members. Winner to receive the challenge cup and replica and 75 per cent. of sweepstake; second 25 per cent. of sweepstake. Weights 12-st. 7-lb. or over. Winners of a Point-to-Point, *bona-fide* Hunt or Military Race since January 1st, 1930, to carry 7-lb. extra, or of two or more such races 10-lb. extra.

Entrance fee £1. To be ridden by those qualified to enter.

Entries close at noon, April 6th, 1932, and should be sent, accompanied by entrance fee and M.H. certificate, to the Hon. Secretary, R.A.V.C. Point-to-Point Association, Station Veterinary Hospital, Aldershot.

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The Ministry of Agriculture report:—The health and condition of ewes is generally satisfactory, except that fluke is more prevalent than usual and losses are reported in some of the breeding flocks. Foot-rot is also in evidence in the south-east. So far the fall of lambs has been good and there is some indication that the number of breeding ewes is being increased, particularly in the grass flocks. Live stock generally has made normal progress. Winter keep has not been heavily drawn upon during January, and there is no doubt that there is a sufficient supply on hand for the remainder of the winter. Sheep on turnips are doing well.

IN PARLIAMENT

VETERINARY SURGEONS (IRISH FREE STATE AGREEMENT) BILL IN THE COMMONS

In the House of Commons on Friday of last week, the Veterinary Surgeons (Irish Free State Agreement) Bill to confirm and give effect to an agreement with respect to the registration and control of veterinary surgeons in Ireland, was read a second time. On Monday last the Bill was committed to a Committee of the whole House.

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HUMANE SLAUGHTER OF ANIMALS BILL

In the House of Commons on March 1st Lieut-Colonel Moore asked leave to introduce a Bill to provide for the humane and scientific slaughter of animals. He recalled that he introduced a similar Bill last year, but that after it had passed half-way through the Committee stage the national crisis supervened. It was hoped by this Bill to ensure that all animals killed for human food were slaughtered by a mechanical instrument, instead of by the present pole-axe method. Five hundred out of 1,500 local authorities had voluntarily adopted the by-law of the Ministry of Health to this end, and many practising butchers had followed their example. He had in his office hundreds of thousands of signatures of people who wished to see the recalcitrant local authorities and butchers brought into line. The Bill was promoted by the Royal Society for the Prevention of Cruelty to Animals, and the demand behind it was a national one which cut across no party interests. There were no members of the Cabinet who need feel a twinge of conscience about supporting it. Pigs were the bone of contention—(laughter)—in the last debate and in Committee, and so he had decided, in order to facilitate the passage of the Bill, to withdraw pigs from the scope of the Bill. Sixteen million animals yearly were involved, and because of the voluntary action of certain local authorities and butchers 4,000,000 of them had now been relieved of the sufferings involved. By their action in that House they could relieve the other 12,000,000 and remove a stigma from the national conscience. (Hear, hear.)

Colonel Moore observed that the Bill was supported by leading scientists, many of whose names he mentioned last year, including such eminent men as Lord Moynihan and Sir Bernard Spilsbury, by the veterinary profession headed by that distinguished official Professor Hobday, by all the women's organisations, and by all humane and progressive butchers.

Leave was given and the Bill was brought in.

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MEAT FOR THE FORCES

On the same date, on the motion of the adjournment,

Mr. Boothby raised the question of meat supplies for the Forces, and appealed to the Government to adopt a policy of supplying home-grown meat.

Sir J. Gilmour said that it was mainly on the grounds of financial stringency that the Government was unable to adopt the proposal suggested. Supplies from foreign countries used for the Forces at present were less than 1 per cent. of the total, and a large part of the whole came from the Dominions. The Government were not blind to the interests of our stock-breeders, and in happier times it might be possible to adopt the proposal suggested.

VIVISECTION AND CHEMICAL WARFARE

On March 1st Mr. Groves presented to the House a petition protesting, first, against the legal practice of vivisection and, secondly, against the use of poison gas in warfare. The petition was signed by over 160,000 citizens of this country, said Mr. Groves.

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The following questions and answers were recorded in the House of Commons recently:—

CHEMICAL DEFENCE (EXPERIMENTS)

Mr. Groves asked the Financial Secretary to the War Office the reason why no reports have been issued on the work of the Chemical Warfare Medical Committee since 1920 on the question of poison gas experiments on animals; and where accounts of the experiments performed during the last 11 years, and their results, may be obtained?

Mr. Cooper: This Committee was dissolved in 1919 and research on such problems has been continued by the Chemical Defence Committee. Information as to the number of experiments performed is given in the Home Office Returns of Experiments on Living Animals of which the last issue was dated July 29th, 1931.

Mr. Groves: Can the hon. Gentleman say whether experiments are still practised?

Mr. Cooper: Yes.

Mr. Groves: And with what results?

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FUTURE OF THE NATIONAL STUD

Mr. Joel asked the Minister of Agriculture whether the question of the disposal of the national stud at Tully, County Kildare, was now under consideration by the Government; and, if so, whether any decision had yet been reached.

Sir J. Gilmour: With a view to securing a reduction in the expenditure of my Department, I reviewed its various activities, including that of the national stud. I have decided for the present to maintain the stud, subject to reconsideration of the position at a later date.

In reply to a supplementary question, Sir J. Gilmour agreed that for a good number of years the stud showed a yearly profit, but added that it was not making a profit now.

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HORSES AND PONIES

Sir R. Gower asked the Secretary for Mines what coal mines at Aberdare, Glamorgan, have been inspected by mines horse inspectors during the last 12 months; whether in any and, if so, in which of such mines horses unfit to work have been found; what is the number of such unfit horses found in each mine, respectively; and whether work in any district of any such mine has been suspended temporarily on account of the unfit condition of the horses employed in it?

Mr. Foot: Twenty inspections were made by horse inspectors at the 12 coal mines in the neighbourhood of Aberdare between December 19th, 1930, and December 31st, 1931; and all these mines were inspected at least once during that period. The condition of the horses was good at all except one mine, with 11 horses, where there was cause for serious complaint regarding the food and the ostler's work. Action was taken by His Majesty's inspectors, and the condition of the horses at this mine is now satisfactory. So far as I am aware, the answer to the last part of the question is in the negative.

Unremitting efforts to reduce these accidents are being made by His Majesty's inspectors, in co-operation with those responsible in the mining

industry, along the lines suggested by the divisional inspectors in their published reports; and special investigations have been made by the inspectors in those coalfields where the accident rates appear from the statistics to be exceptionally high. These investigations have shown that the statistics of injuries as now collected and published are not really comparable, in that slight mishaps to ponies which at some mines and in some districts are not considered sufficiently serious to record are recorded as accidents in other mines and districts. I am considering what steps can be taken to get the statistics on a more uniform basis.

Sir R. Gower asked the Secretary for Mines what are the rates per 1,000 at which horses and ponies were killed and injured underground in mines in each division, respectively, for the year ended June 30th, 1931; whether he is contemplating taking any and, if so, what steps with a view to securing a reduction in the rates in those coalfields showing a relatively high number of horses killed and/or injured; and whether he will consider the general adoption of the reforms suggested in the reports of the inspectors for the northern and other divisions for 1930 with a view to removing the cause of many of the accidents to the animals?

Mr. Foot: The statistics are as follow:—

Accident Rates per 1,000 horses and ponies employed underground at Mines under the Coal Mines Act during the year ended June 30th, 1931.

Inspection Division.	Accident rate per 1,000 horses and ponies employed. Killed or destroyed in consequence of injury or accident.	Injured by accidents.
1. Scotland	30	30
2. Northern	31	81
3. Yorkshire	39	145
4. North Midland	33	200
5. North Western ...	14	38
6. Cardiff and Forest of Dean	32	142
7. Swansea	39	120
8. Midland and Southern	32	72
Average	33	119

HORSES AND PONIES (CASUALTIES)

Mr. T. Williams asked the Secretary for Mines how many horses or ponies were killed or injured as a result of explosions underground in coal mines during each of the last five years?

Mr. Isaac Foot: I regret that exact figures cannot be given, but from such records as are available the total number during the five years appears to be four.

Mr. T. Williams asked the Secretary for Mines whether he obtains an annual record of injuries received by horses or ponies while underground, other than injuries received during working hours; how many horses received veterinary attention for such injuries during each of the last five years; and will he include such figures in the annual reports published by his Department?

Mr. Foot: The annual returns of casualties to horses and ponies in mines include injuries received out of working hours, but do not show them separately; and I do not consider that I should be justified in adding to the already large number of records which mine owners are required to keep to enable them to furnish statistical information.

HEREDITARY DISEASES IN HORSES

On page 220 of our issue of February 20th, the attention of our readers was directed to certain of the points made in Professor W. Mitchell's recent lecture on the above subject to the Agricultural Discussion Society.

Subsequent correspondence in *The Scottish Farmer* includes an arresting communication from Mr. J. R. McCall, M.R.C.V.S., of Glasgow, in which the following passages occur:—

"It is evident from a general perusal of this publication that Professor Mitchell regards the large majority of the diseases scheduled under the Horse Breeding Act as being similar in origin and depending upon a toxic condition of the blood resulting from dietetic causes. This is certainly a very hopeful outlook on the problem, and must afford comfort and encouragement to horse breeders throughout the land. All that remains is to incriminate the offending food factors, supply the necessary vitamins, and then scrap the Horse Breeding Act as a superfluous and unnecessary form of legislation.

"Had the lecturer confined his indictment to the diseases affecting the bony structures of the body I would have been less inclined to join issue at the present stage, but when the important and baneful nervous malady popularly known as "shivering" is securely roped into his net, I feel I must utter a faint protest, and indicate what appear to me to be discrepancies in the author's line of argument.

"If shivering be due to disease of the back bones or to fibrous thickening of the coverings of the sciatic nerves, why is it so frequently intermittent in character? I have seen a yearling Clydesdale colt taken out of a horse box bathed in sweat showing all the symptoms of a pronounced shiverer, and one that previously had never shown a suspicion of the disease. Similar occurrences after accidents or acute illnesses are not by any means exceptional. How can these manifestations be reconciled to causes dependent upon definite structural alterations?

"It is to be observed that Professor Mitchell admits that he has found, on *post-mortem*, old horses with disease of the backbone that were not shiverers. So have I. On the other hand, I have found bad shiverers that had no discernible disease in their backbones, and no structural alterations in their sciatic nerves, or for that part in their brain or spinal cord after the most exhaustive microscopic examinations of these tissues.

"Is it not possible that shivering is a functional disease dependent upon some toxic condition of the blood transmitted from the parents to the offspring? This at least appears feasible to me, and in harmony with views of nervous diseases in the human family.

"It is common knowledge among those extensively engaged in horse breeding that certain families are prone to produce "shiverers," others to beget progeny liable to develop "sidebones," whereas others reared and fed under exactly similar conditions remain entirely free from those maladies. Do such practical experiences tend to support the theory of dietetic origin?

"It is further stated that summer grass is rich in Vitamin A, while winter grass and hay is deficient. This certainly coincides with the bodily reaction of animals going at pasture all the year round. Why is unsoundness in Shetland ponies so rare if dietetic deficiency be such an important factor in its production? This breed normally live all the year round on poor pasture and get little or no hand feeding.

"I certainly do believe that town horses do not receive enough green food, and I consider that good hay and plenty of it is very essential. I can agree with my colleague that bone disease of an acute type and endemic in character can be associated with a diet rich in oats and bran and deficient in quantity of cut hay, but the disease, in my experience, had no connection with either sidebones or spavins.

"There can be no doubt that the draught horse is peculiarly liable to disease of the bony skeleton and the joints. This is fully borne out by *post-mortem* examinations. The older the horse is and the more he has engaged in arduous labour, the greater this liability appears to be.

"The more one ponders over the problem of unsoundness in the horse, the more intricate and involved the subject becomes. A close scrutiny of all the evidence laid before the Commission on Horse Breeding forty-two years ago by eminent breeders and recognised authorities reveals the salient fact that practical experience was the predominant keynote.

"Professor Mitchell is to be congratulated on the original and painstaking nature of his investigations, and no doubt in time his efforts may yield valuable results from the dietetic and pathological standpoint of disease in horses."

We invite comment on the fore-going subject from our readers, for publication.

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THE HORSE AND THE NATIONAL WELFARE

Sir Walter Gilbey, who is President of the Hunters' Improvement and Light Horse Breeding Society's show, presiding at a luncheon held prior to the show, which took place last week, said that the majority of the community did not recognise what the horse meant to national welfare. When one considered the tremendous amount of money turned over through racing, hunting, polo, and riding in the way of sport and pleasure, in addition to trade and commerce, the Army and the police, it was self-evident that millions of money were circulated and hundreds of thousands found employment directly and indirectly through the horse. It would be a sorry day for the country if there were no such thing as hunting and racing. "We are a great horse-loving country," he declared, "and we supply the world with every breed of horse. If they want the right animal, they have to come to us. In this way the horse can play its part in assisting to adjust an unfavourable trade balance. If we allow our breeds to deteriorate we lose one of our most important national assets."

The need for national economy found the Society faced with the prospect of the abolition of the grant for premium thoroughbreds, but he was happy to say that, owing to the active co-operation of many important bodies connected with agriculture, the Treasury had consented to a grant of £8,000. Since 1886 no less than £465,795 had been disbursed through the Society in endowing 2,042 thoroughbred stallions with premiums to travel England and Wales, exclusive of Scottish and minor premiums. In view of the changed conditions, he was now making a special appeal to hunting ladies to support the work of the Society by becoming members. Those ladies owed a great deal to the Society which enabled them to get good hunters at a reasonable price. As there were as many ladies as men hunting in these days, he felt there would be a good response to his appeal.

Continuing, Sir Walter observed that he often went to Hyde Park to watch the riding there, and one thing that gave him great satisfaction was the enormous improvement shown in the riding of children and the quality of their ponies. It gave him intense pleasure to know that so many of the younger generation were being brought up to ride. He was shocked, however, to see so many people of both sexes riding in Rotten Row in costumes which were not only a disgrace to the Royal park, but to the country. What must foreigners think of those exhibitions, particularly as they were told that Rotten Row was believed to represent the last word in horses and their riders? Probably some offended unwittingly, but he would go so far as to say that not only he, but thousands who took pride in their horses and horsemanship would welcome some regulation to prohibit persons who were not suitably dressed from riding in Rotten Row.

He particularly referred to those who rode without hats. The previous Sunday week he counted no fewer than 30 guilty of this fault. In addition there were others in stockings and pullovers of every variety and shade and every kind of kit quite unsuitable for riding. This was a real eyesore in a lovely park. If this kind of thing went much farther, they would soon see people riding in bathing costumes or running shorts. He knew there were many who could not go to the best tailors and bootmakers, and he would be the last to deprive those of moderate means of the pleasure of riding. The least they could do, however, was to wear a hat and wear clothes which, at any rate, were not an outrage. The Row was the pride of the world, and they ought to endeavour to keep it so. He paid a tribute to the fine riding of the mounted police, and said they might be taken as an example of what good horsemanship should be.

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MINISTER OF AGRICULTURE AND THE LIGHT HORSE BREEDING GRANT

Sir John Gilmour, in seconding the adoption of the report at the recently-held annual general meeting of the Hunters' Improvement and National Light Horse Breeding Society, which took place on the day of the Hunters Show, said that he had arranged with Mr. Baldwin to "cut" the Cabinet and come to the show to see some of his old hunting friends. They all realised the difficult times through which the country had been passing and the repercussions on hunting and horse breeding. Having been closely associated with it all his life, and his father before him, there could be no doubt about his sympathy with the industry. If at a later stage the Government felt able to continue assistance he should welcome it, but he could make no kind of promise and it must not be understood that the Government was in any measure committed.

The President (Sir Walter Gilbey) observed that the Society had had a year of considerable anxiety. They had been confronted with serious difficulty owing to the prospect of the abolition of the Government grant for thoroughbred stallions. They were grateful, however, that wise counsels had prevailed; and as a result of the co-operation of the agricultural societies of the country the Treasury had agreed to a reduced grant of £8,000. Although sacrifice had been made, no money could be better spent. All through their negotiations, he believed, they had had the sympathy of Sir John Gilmour. He hoped they were now on safe ground and that they would go on and increase. There was no question that it was not realised throughout the country what an enormous national asset the horse was to the welfare of the nation. He appealed for an increased membership and hoped that women, who

now hunted as much as men, would join the Society. He hoped the day was not far distant when they would have women on the Council of the Society. He believed that when that happened there would be a great increase of membership.

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COUNTY COUNCILS ASSOCIATION

Ministry of Agriculture and Compensation for Segregation of Suspect Tuberculous Animals

At a meeting of the Executive Council of the County Councils Association held on January 27th (the proceedings of which are reported in the Association's Official Gazette for February) a report of the Agricultural Committee was adopted in which it was stated:—"The Committee considered a letter received from the Ministry of Agriculture in reply to the resolution passed by the Committee at their meeting in April last with reference to the payment of compensation in respect of loss arising from the segregation of suspected animals under the Tuberculosis Order, 1925. It was resolved that the letter be received and that no further action be taken in this matter."

The Ministry's letter was as follows:—

September 18th, 1931.

"Sir,

"I am directed to refer to your letter of May 21st, 1931, and previous correspondence on the subject of compensation to owners whose cattle are segregated as suspects under the above Order, and are eventually found to be free from disease.

"This particular question has been the subject of further communication between this Ministry and the Ministry of Health. It is noted that the Association bases its case for compensation upon the provisions of paragraph 14 of the First Schedule to the Milk and Dairies (Consolidation) Act, 1915, and Article 18 (6) of the Milk and Dairies Order, 1926. The Ministry is not convinced that the circumstances in which compensation is payable under those provisions are a true parallel of the circumstances in which restrictions are placed upon the disposal of milk of a cow which is under suspicion of being affected with one of the forms of tuberculosis viewed by the Tuberculosis Order of 1925.

"Apart, however, from this point, the payment of compensation to a farmer for losses incurred in consequence of restrictions imposed on suspected animals opens a most important question of principle, namely, whether compensation can be paid on account of consequential losses due to restrictions applied under the Diseases of Animals Acts and Orders.

"As your Association is of course aware, those Acts only provide compensation for animals which are taken over by the State from the owner compulsorily, and slaughtered for the purpose of preventing the spread of disease. They do not provide compensation for losses caused by the imposition of restrictions on the movements of animals, or the disposal of their products. Such restrictions are unfortunately a necessary concomitant of any Governmental action for the suppression of contagious animal diseases, but they undoubtedly cause varying degrees of loss to those upon whose business they are imposed. It was recognised when the Diseases of Animals Acts were passed, that such consequential losses to individual stock-owners and livestock traders were inevitable, but that it would be impossible to compensate persons for losses so incurred without rendering measures against contagious diseases so costly to the State as to become impracticable.

"Two examples of such action may be quoted illustrating this argument, namely, (*a*) the entire suspension by Order of the import trade in Irish animals in consequence of the detection of an animal suspected of foot-and-mouth disease at one of the landing places, pending the identification of the source of the outbreak; (*b*) and the imposition of a prohibition on the movement and marketing of animals within an area of five to 15 miles radius of a suspected outbreak of foot-and-mouth disease, pending confirmation, or otherwise, of the disease, and in the event of confirmation, the continuance of such restrictions over a period of 14-28 days.

"Such restrictions have necessarily operated for considerable periods in the past, and if the liability of the State were acknowledged for the losses thus occasioned to farmers, market authorities, auctioneers, and other persons directly or indirectly affected, the operations against the disease would have to be abandoned.

"It is clear, therefore, that the Diseases of Animals Acts contemplate the imposition of such restrictions without the payment of compensation. The power to keep under restriction an animal suspected of a notifiable contagious disease, *i.e.*, a dangerous animal, is not, of course, limited to tuberculosis, and it is a cardinal principle of the Diseases of Animals Acts and Orders that power to deal with such animals without the liability to pay compensation is an essential part of the procedure necessary for dealing with animal diseases.

"In the circumstances, the Ministry feels sure that the County Councils Association will recognise that it would be impossible for the Ministry to promote or support fresh legislation with a view to the granting of compensation in the circumstances suggested.

"If, on consideration of this letter, the Association concurs, the suggested discussion between representatives of the Association and officers of this Ministry and the Ministry of Health will perhaps be considered unnecessary.

(*Signed*) W. P. Smart.

The Secretary,
County Councils Association.

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TUBERCULIN AND THE HUMAN SUBJECT

Its Success as a Diagnostic Agent

A report issued recently by the Medical Research Council reveals that a remarkable advance of the use of tuberculin in the diagnosis of tuberculous disease, particularly in a negative sense, has been made by Dr. P. D'Arcy Hart, Assistant to the Medical Unit, University College, London.

The Council, in a preface to the report, state that Dr. Hart had observed the reactions of 1,030 clinically tuberculous patients of all ages and 731 clinically non-tuberculous patients of all ages.

"Dr. Hart gives good evidence here," state the Council, "that the tuberculin test is one of scientific accuracy provided that the intracutaneous or Mantoux test be used and not the cutaneous test of von Pirquet. The positive reactions are not yet capable of such quantitative grading as might serve to distinguish active tuberculosis, as such, from the benign results of infection that has at some time or another been implanted in most members of an urban population. On the other hand, however, a negative reaction, given adequate dosage of tuberculin, is at all ages of diagnostic value for excluding the

presence of tuberculous disease, the error being only about 2 per cent.

"The negative reaction is most likely to be obtained in children who have not yet become tuberculin-sensitised through chance exposure, and it may, therefore, be of great value for guiding hygienic measures of control in households where a tuberculous patient has been living. The accuracy of the test should make it possible now to obtain trustworthy measurements of the tuberculin sensitisation of a population at different ages, and to find whether this is actually falling as a result of modern conditions or modern methods that improve our control of the infection."

Dr. Hart, in his report, points out that though the majority of the urban population become infected before reaching adult life, comparatively few of those infected develop clinical tuberculosis; in the others the infection remains subliminal. In a miscellaneous series of over 1,000 patients known to have clinical tuberculosis almost 100 per cent. were positive to the intracutaneous test, issued in maximal doses, where necessary. The majority of these lived in London or the suburbs and a few lived in the Home Counties. The 751 clinically non-tuberculous patients were selected at random from in- and out-patients attending hospitals in North and Central London.

"The usefulness of the intracutaneous test for the negative diagnosis of clinical tuberculosis in a given case," Dr. Hart writes, "depends, not only upon the accuracy with which a negative reaction excludes this disease (98 per cent. in the present series), but also upon the chance of the patient giving a negative reaction should his condition, suspected of being tuberculous in origin, be in reality due to some other cause. This chance is determined by the percentage of negative reactors to tuberculin among clinically non-tuberculous individuals of the same age and social status as the patient and living in a similar environment.

"At the present time the test can be profitably applied for the purpose of negative diagnosis throughout childhood in patients of the hospital class living in London and other large cities, and possibly even in adults in country and private practice."

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R.A.S.E. SHOW AT SOUTHAMPTON

The Royal Agricultural Society of England has now issued the prize sheet for livestock, poultry, produce, implements, etc., at the show of the Society to be held at Stoneham Park, Southampton, from Tuesday, July 5th, to Saturday, July 9th. The total value of the prizes offered, including champion prizes, special prizes, challenge cups and medals, is £14,269, of which £3,313 represents contributions from various breed societies, and £1,965 from other sources. Prizes in the various sections amount to—horses, £3,010; cattle, £6,298; sheep, £2,014; goats, £110; pigs, £1,598; and poultry, £401.

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NATIONAL CATTLE BREEDERS' ASSOCIATION

At a meeting of the Executive Committee of the above Association, several expressions of opinion were read from breed societies on the question of the suggested scheme drawn up by the National Veterinary Medical Association for the eradication of bovine tuberculosis. Consideration of the matter was deferred pending the receipt of replies from the remainder of the affiliated societies.

Notes and News

DIARY OF EVENTS

March 14th.—N.V.M.A. Editorial Committee Meeting at 2, Verulam Buildings, Gray's Inn, W.C.1.

March 16th.—Meeting of the Comparative Medicine Section of the Royal Society of Medicine.

March 17th.—Annual Meeting of the Western Counties Division, N.V.M.A., at Exeter.

March 18th.—Annual General Meeting of the Southern Counties Division, N.V.M.A., at Christchurch.

March 23rd.—Annual Meeting of the Lancashire Division, N.V.M.A., at Manchester.

April 1st.—R.C.V.S. Annual Fees due 1932-33.

April 6th.—R.C.V.S. Registration Committee.

April 7th.—R.C.V.S. Examination, Registration and Parliamentary Committees.

April 8th.—R.C.V.S. Library and Finance Committees; Council Meetings.

April 11th.—N.V.M.A. Committee Meetings, Edinburgh.

April 12th.—N.V.M.A. Council Meeting, Edinburgh.

May 5th.—R.C.V.S. Last day for Nominations for election to Council.

May 12th.—D.V.S.M. Examination entries due.

May 19th.—R.C.V.S. Council Election Voting Papers issued.

May 26th.—R.C.V.S. Last day for receipt of Voting Papers.

June 2nd.—R.C.V.S. Annual General Meeting. V.V.B. Fund Annual General Meeting.

June 9th.—D.V.S.M. Written Examination begins.

June 13th.—D.V.S.M. Oral Examination begins.

June 29th.—R.C.V.S. Committee Meetings begin.

June 30th.—R.C.V.S. Annual Dinner.

July 1st.—R.C.V.S. Council Meetings.

July 6th.—R.C.V.S. Summer Examinations begin.

Aug. 8th-13th.—N.V.M.A. Jubilee Congress at Folkestone.

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R.C.V.S. ANNUAL DINNER

In again drawing attention to the gratifying fact that H.R.H. The Duke of Gloucester is to attend and speak at the Annual Dinner of the Royal College, we would ask readers carefully to note the correct date, which is June 30th, and not June 29th, as given in an earlier announcement.

VETERINARY INSPECTION IN EAST SUSSEX

East Sussex County Council have approved the recommendation of its Public Health Committee that two whole-time veterinary inspectors, one at a salary of £500 per annum plus £175 per annum for travelling expenses, and one junior whole-time veterinary inspector at a salary of £400 per annum plus £150 for travelling expenses, be appointed. In addition to these salaries the sum of £50 per annum should be allowed for miscellaneous expenditure. One of the veterinary inspectors would be stationed in or near Lewes and would be responsible for the districts of Lewes, Haywards Heath, East Grinstead and Uckfield. The second veterinary inspector would be stationed at Battle, and be responsible for the districts of Battle, Rye, Hailsham, Ticehurst and Hastings Rural. The estimated cost of the scheme was £1,275, but should the posts be designated for the purposes of superannuation this would involve an additional cost of £45 per annum.

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TUBERCULOSIS IN SWINE

Mr. J. G. McGregor, County Veterinary Officer, Stirling, at a recent demonstration for pig-breeders held at the bacon-curing factory of Messrs. McGrouther, Stirling, dealt with the types of tuberculosis to which pigs were susceptible, and showed how these could be combated by having proper and hygienic housing, bedding, and feeding for the animals. He pointed out that at least 5 per cent. of pigs that were killed in Scotland showed evidence of tuberculosis. Two-thirds of the cases of tuberculosis were caused by the bovine type of organism. Mr. McGregor also pointed out how, by taking care and not exposing the stock to infected animals, it was possible to minimise the effects of swine fever, which he described as the curse of the trade.

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INTERNATIONAL HORSE SHOW

The twenty-first International Horse Show will be held at Olympia, London, from Thursday, June 16th, to Saturday, June 25th (both days inclusive), when performances will be given each afternoon and evening.

VETERINARY INSPECTION IN BERKSHIRE

At a recent meeting of the County Agricultural Committee of the Berks. County Council, it was reported that the Diseases of Animals Acts Sub-Committee had had under consideration the question of a re-organisation of the veterinary inspectors' districts with a view to effecting economy in travelling expenses. It was clear that the work of the veterinary inspectors with their present areas must, at times, involve long journeys. It appeared, therefore, that the appointment of a larger number of inspectors with smaller areas would be likely to result in some economy in travelling expenses. The Committee recommended that the existing arrangements as to districts and inspectors be terminated on March 31st, 1932, and that the county be divided into six districts as from April 1st, 1932.

These recommendations were approved.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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To the Editor of the Veterinary Record.

Sir,—May I again seek the assistance of the *Veterinary Record* to get in touch with my clients.

During the next fortnight I shall be gradually transferring my laboratory to my larger premises at Chorleywood, and, while I shall make every effort to deal with every case as promptly as possible, it is conceivable that there may be a slight delay occasionally in reporting.

When the transfer is complete I shall make the change of address known by letter.

Yours faithfully.

A. Leslie Sheather.

The Editor acknowledges the receipt of the following:—

Communication from Mr. F. T. Harvey (St. Columb).

Diseases of Animals Acts, 1894 to 1927

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 16th to 29th February, 1932	16	18	—	—	8	25	13	73	40
Corresponding period in 1931	14	15	—	—	7	7	19	42	26
1930	11	11	—	—	12	20	21	96	27
1929	23	26	2	259	16	30	19	43	12
Total 1st January, to 29th February, 1932 ...	78	99	1	67	50	87	96	352	136
Corresponding period in 1931	81	90	2	255	36	62	114	208	82
1930	81	85	—	—	74	119	203	425	148
1929	86	99	17	1,252	80	151	228	202	82

Note.—The figures for the current year are approximate only.